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# Chapter 1

## Introduction to the research area

*“Over the past 50 years, computers have undergone transformation from monolithic number crunchers, to centralized repositories of management information systems, to distributed, networked, cyberspace support systems. During the same period, uses of computers have moved from computational problems to life support, from machine language to GUI's, from abstractions of work to virtual reality on the World-Wide Web. These transformations have brought with them situations that have ethical implications.”*

(Conger and Loch 1995: 30)

### 1.1 Introduction

The Internet has been in existence for almost 30 years, but it is only in the last decade (since the advent of the World Wide Web and multi-media web browsers) that it has become widely accessible to the public and easy to use. The growth of the Internet has been described as “the most astonishing technological phenomenon of the late twentieth century” (Cairncross 1997: 87).

This research began with the question “Why is the *Internet* provoking such an ethical debate”? In other words, given that we manage our daily lives “ethically” (to a greater or lesser extent), why is ethics proving such a challenge when it comes to the Internet? The issues are many and complex, and combined with the novelty of the digital environment, contribute to a general picture of muddle and confusion as far as Internet ethics is concerned. This thesis answers the above question, and addresses the problem of muddle and confusion, by offering a framework that can be used to unravel some of the complexities. By taking four perspectives the framework sets the issues in different contexts, and in so doing supplies a conceptual tool as a foundation for analysis. That is, it provides a strategy for thinking about the ethical issues currently under discussion (demonstrated in the following chapters), and in that way is an aid to understanding. The framework may be developed further as the Internet itself develops and other issues are raised.

In 1997, at the beginning of the research period, the importance of the Internet as a fast new global communications medium was already evident. Also evident were a large number of concerns regarding matters of ethics, whether of ethical behaviour on-line (Johnson 1997), ethical use of the Internet (for example, the distribution of pornographic material: *The Economist* 1997) or those involved in the promotion of the technology (as in

the marketing practices of Lotus, Kling *et al.* 1996). What was not evident was how to resolve these problems.

The Internet has brought to the forefront issues originally raised in the field of computer ethics (for example the security of personal data) and also generated new debate, highlighting a variety of ethical tensions such as freedom of speech issues versus censorship. Its widespread use makes it an extremely powerful and potent form of communication, and the diverse nature of its user population (in terms of age and culture) has raised concerns surrounding the dissemination of pornographic and racist material. These issues have always been of concern, but prior to the Internet the publication and dissemination of this type of material has been controlled to a certain extent by legal measures. However, these traditional methods of control were more “physically” based and have proved difficult to transfer to the Internet context.

## 1.2 What is Internet ethics?

Internet ethics is a new and evolving field of enquiry, the scope of which is still unknown. However it is possible to get a flavour of what it incorporates by reference to recent works, which for the sake of clarity can be categorised as micro, macro and meta-level perspectives.

### 1.2.1 Micro-level

This level refers to particular and specific issues, which supply the *content* of Internet Ethics. As far as this category is concerned, the issues could be many and varied. In fact, according to Hamelink (2000: 33) they are very much the same as those we encounter in daily life:

“In CyberSpace all those moral issues that confront us in daily realities are again on the agenda. All the immoralities of physical life occur in virtual reality: censorship, lust for power, treason, stalking, lying, gossiping, peeping, stealing, cheating, seducing, breaking promises, insulting, and being unfaithful, unreliable, uncivilised or abusive.”

There are however specific issues which dominate the Internet ethics debate, which can be summarised as those picked out by Hamelink (2000), Langford (2000) and Spinello (2000), for particular discussion. These are:

- privacy
- security
- intellectual property
- freedom of speech
- equality of access

- regulation

A similar list is given by The International Federation for Information Processing (IFIP) Special Interest Group 9.2.2 (Framework for Ethics of Computing), who agreed on the following as issues of ethical concern:

“Privacy (and deriving rights such as right to know about his/her own data); computer crime; intellectual property right, copyright, trademark, patent; free speech, right to information and communication; fight against hatred speech, racism, and against sectarianism; pornographic, illegal, dubious or harmful material; etc.”

(Berleur, d'Udekem-Gevers and Rolin 1999: 53)

### 1.2.2 Macro-level

This level of classification is used by this author to capture a wider notion, which explicitly refers to the human dimension. For example, according to Simon Rogerson (2000), Internet ethics is about behaviour in relation to the Internet. The following extract stresses the importance of personal responsibility for behaviour in using the Internet.

“The Internet will change society. We must be aware of the potential benefits and dangers and be prepared to challenge any antisocial activity. Therefore, Internet ethics are not optional, they must become a way of virtual life at work and in the home. Only then will we reap the benefits that this amazing technology offers.”

(Rogerson: 2000)

Barroso and Weckert (1998: 67) take a similar position concerning moral responsibility, but indicate a broader scope which can be interpreted to incorporate the responsibilities of those who are involved in the creation of the technology that the Internet employs:

“the Internet cannot be considered apart from the human, ethical and moral context in which it operates, nor from the new and unknown moral responsibilities that it implies”.

### 1.2.3 Meta-level

This is a higher level perspective, abstracted from the individual issues and level of human involvement, which refers to Internet ethics as a field of study. From this perspective some guidance on a definition might be gained from the closely related field of computer ethics, defined by James Moor (1985: 267) as follows:

“computer ethics is a dynamic and complex field of study which *considers the relationships among facts, conceptualizations, policies and values* with regard to constantly changing computer technology” (my italics)

It is reasonable to assume that as computer technology underpins the Internet the above definition is still relevant to Internet ethics. Although the Internet adds a new dimension to the concerns originally discussed in the computer ethics literature, the above definition can still apply to the Internet.

A paragraph on the back cover of a recent book specifically addressing Internet Ethics (Langford 2000) announces: “Internet Ethics considers the moral, ethical and legal framework underpinning our use of the Internet and the World Wide Web”. It is not made clear whether this description refers to the book, or to the subject matter, although the inference this author draws is that it refers to the book. This is borne out by the absence of any attempt at a definition of Internet ethics within the book content.

A very different view, again referring to computer ethics, but one which could be incorporated within this level is that held by Luciano Floridi (1999b: 38), which is that computer ethics (CE) is itself an ethical theory:

“[features 1-3] fail to make CE any different from, let alone better than, other ethical theories already available, most notably Consequentialism and Deontology ...”

He elaborates:

“CE is primarily an ethics of *being* rather than *conduct* or *becoming* and hence qualifies as non-standard ethics.”

(Ibid.: 42)

If computer ethics is an ethical theory, then it is quite likely that Internet ethics may be too.

### **1.3 The scope of Internet ethics**

From the above descriptions we can see that Internet ethics can cover: issues of moral responsibility; aspects of the Internet which may threaten certain rights such as privacy and freedom of speech; relationships of facts, concepts, values and policies; moral, ethical and legal underpinnings, and it may be an ethical theory.

The scope of Internet ethics then could be summarised as follows:

- any issue of an ethical nature arising from Internet technology
- the responsibilities and obligations of those people involved both in the implementation and use of Internet technologies (i.e. computing professionals, promoters and users)
- the application of ethical theory in the Internet context

- 
- the study of ethical norms in relation to the Internet
  - the development of an ethical theory of the Internet
  - the relationship between ethics and the Internet

As for *particular* issues relating to the Internet, the following are some ethical issues which have drawn public attention, and which have caused considerable concern:

- easy access to information considered by some to be harmful or offensive (e.g. pornography, racist material, bomb-making recipes)
- breaches of security (e.g. viruses, hacking)
- intellectual property (e.g. copying software, financially free access to recorded music)
- indiscriminate collection and manipulation of personal data (leading to concerns regarding personal privacy)
- the dissemination of sensitive information (e.g. in judicial processes, and in matters of national security)
- the use of strong cryptography (making police surveillance of suspect criminal behaviour impossible)
- regulation of the Internet (whether it should be regulated, and to what extent)
- equality of access to a powerful resource

In more general terms, many of the disputes are over conflicting principles such as freedom of speech and censorship, the right to information versus intellectual property laws, the right to privacy and the rights of law enforcement agencies.

We can see that Internet ethics covers many aspects and issues which are in urgent need of understanding.

#### 1.4 Scope and perspective of this research

Research in the area of Internet ethics is still at an early stage. Whilst some of the issues mentioned above have been a cause for concern for some time (for example the computerised collection of data), other issues (e.g. pornography) have received more recent attention. However, as important as particular issues are, little attention has been paid to the bigger picture. Commenting on the field of computer ethics Steinke and Wong (1998: 171) observe:

“The field as a whole appears to serve almost exclusively in the role of external critic, focusing on narrow issues such as privacy, intellectual property, and fraud, rather than serving as a crucial voice in such matters as core direction and purposes of the field ... While this is no doubt an important task, *meta-level “big picture” questions also need to be considered* if the field is to increase its influence.” (my italics)



Floridi (1999b: 38) makes a similar observation, noting that computer ethics “has consistently adopted a bottom-up procedure”, concentrating on individual, and real-world issues “rather than mental experiments”. Floridi does not explain his use of the term “mental experiments”, however, in view of his philosophical background this author takes it as following the philosophical tradition of using conceptual scenarios.

This research addresses both of the above criticisms by adopting a top-down approach, using real-world examples as an aid to mental experiments with the aim of generating useful insights. (This author uses the term “mental experiments” in the sense of generating hypotheses.) This change in perspective takes the focus off individual issues as central to the investigation, and moves them to a supporting role as evidence of a wider theory of ethical influences. This work is therefore not so much concerned with the individual ethical issues of the Internet, *per se*, (important though they are), it is more concerned with understanding the bigger picture of Internet ethics, and of clarifying the fundamental problems of ethics and the Internet. In this respect this research takes a meta-level perspective (following Steinke and Wong, above). It must also be emphasised that the research takes a culturally western perspective, influenced by the nationality and location of the author (UK). Whilst it is recognised that the Internet is a global communications tool, it is beyond the scope of this, and probably any, research to aim for universal coverage. It should therefore be borne in mind that the examples and discussions throughout this work have a western flavour - which includes a bias towards the consequentialist approach favoured in the United States.

By attempting to understand what it is about the Internet that causes a breakdown in ethics which is not apparent in daily life this work seeks an answer to the question:

*What are the factors in the Internet (on-line) context which disrupt the operation of off-line ethics?*

Thus the question addresses the final point noted in the previous section “the relationship between ethics and the Internet”. The research topic falls into two academic subject areas - moral philosophy and computing science. This research has been conducted from within a computing science context, consequently the focus of the work is on the implications for the behaviour of practitioners and users, as opposed to the implications for philosophy and philosophers.

Four areas of investigation emerged: technology, concepts, regulation and ethics. Technology first and foremost because it underpins the subject under discussion, and

concepts, regulation and ethics arose as categories from the literature review (explained in Chapter 2).

It is interesting to note that others in the field have used similar categories, although each differing in some slight respect. As early as 1994, Vint Cerf identified three influences on behaviour:

“[This paper] makes the assumption that there are only three ways to influence behavior: *technical constraints, legal constraints and moral constraints*. Technology can be used to limit the scope of behavior and where that fails, legal remedies may be sought. Ultimately, appeal may be made to moral principles. In reality, all of these tools are commonly applied to channel behavioral choices.” (my italics)

(Cerf 1994)

Section 1.2.3. noted that Duncan Langford's book *Internet Ethics* (2000) takes three aspects - moral, ethical and legal - to provide a focus for discussion.

Others have used similar multi-dimensional approaches to aid analysis. For example, in the IFIP SIG9.2.2 initiative “Ethics and the Governance of the Internet” (Berleur, Duquenoy and Whitehouse 1999) three regulatory constraints (technical, law, self-regulation) were used to assist in bringing to light ethical issues. These perspectives were not,

“looking at what *could be* done, but at *what is done* through those different instruments, trying to enlighten which are the ethical issues...”

(Berleur, d'Udekem-Gevers and Rolin 1999: 38).

Lawrence Lessig (1999) notes four constraints on behaviour: market, architecture, law and norms. The latter three categories closely match the areas identified for investigation in this work, as Table 1 (below) shows.

*Table 1: showing the relationship between “constraints on behaviour” (1999: 88) and “influences on ethical thinking” (this thesis).*

Constraints on behaviour identified by Lessig		Influences on ethical thinking identified in this thesis
• Market		• Concepts
• Architecture	relates to:	• Technical
• Law	relates to:	• Regulation
• Norms	relate to:	• Ethics

Whereas Lessig is focussing on control mechanisms which will ultimately allow or not allow certain behaviours, the aim of this research is to find out about ethical “influences”. Therefore “market” is exchanged for “concepts” as James Moor's classic work (1985) suggested that perceptions are relevant in ethical understanding. Also Lessig's four choices of action-determinants are all external influences. This work incorporates one internal/subjective influence thereby acknowledging the relationship between autonomous individuals and their actions.

The four categories outlined above offer an additional benefit, apart from their natural fit with the problem areas identified in the literature review. Each of the four perspectives have particular features which can be used as aids to analysis, for example, technological responses to some of the problems clearly indicate the tight relationship between ethics and technology. In this sense, sections of those four chapters are used as conceptual tools, or “probes” as described in Thimbleby (1999).

## 1.5 The need for clear foundations

Computer ethics (which provides the foundation for Internet ethics) is still at an early stage of development, and as a discipline prey to “conceptual muddles” (Gotterbarn and Rogerson 1997), leading to “significant confusions and dangerous conclusions” with a “surprising lacuna in its literature” (Gotterbarn 1995). Siponen and Kajava (1998: 673) note “computer ethics comprises a relatively undisciplined and disunited field of study”.

It is not surprising these confusions exist, new disciplines take time to develop and in their early stages gather new ideas from a range of perspectives. In such a diverse environment it is important to stop and check the foundations, to provide a firm base for further work. As John Ladd (1997: 12) has suggested:

“We need to delve more deeply into some of the *underlying problems* that the development of computers has made more apparent and has rendered more acute” (my italics)

Computer ethics (and Internet ethics) do not stand alone in their confusion, other sub-disciplines of Computer Science experience similar difficulties of inconsistencies, lack of established research methodologies and theory. For example, in explaining the fragmented state of software development theory and practice, Wernich and Winder (1997: 117-129) draw an analogy between the relatively new field of Software Engineering and Kuhn's (1970) model of pre-scientific disciplines. According to Kuhn in the pre-science stage those engaged in the discipline:

- 
- disagree over the nature of the phenomena with which they are dealing and how to interpret their observations (Ibid.: 17)
  - are unable to agree on key concepts and therefore talk at cross purposes (Ibid.: 198)
  - each have their own disciplinary matrices (Kuhn 1977), including different metaphysical bases and separate sets of exemplars which each of their theories do most to explain (Kuhn 1970: 12-13)

The above points could equally apply to the field of computer ethics (and by extension to Internet ethics).

It is sometimes argued that Computer Science is not strictly a scientific discipline. Wernich and Winder anticipate this criticism by drawing on Chalmers (1982: 108-9, quoting Kuhn 1970) who points out:

“However, disciplines may exist which, although they are not labelled as ‘sciences’ by society, nonetheless conform to the ‘science’ model ... [Kuhn] himself noted in the postscript to the second edition of his major work that the concepts which he had introduced might be applicable to other types of discipline (Kuhn 1970: 209)”

(Wernich and Winder 1997: 121-2)

There have been, and probably will continue to be, muddles and confusion in the research domain of the Internet. The following chapter discusses the conceptual muddles mentioned at the beginning of this section, which are to do with the uniqueness of computer ethics, and whether the ethical issues raised by computer technology are new issues and warrant a new ethics.

It is hoped that the work undertaken here will go some way to unravelling some of the confusions, by “delving more deeply” into some of the “underlying problems”. To do this the four categories - technology, concepts, regulation and ethics – are, in a sense, opened up with the aim of generating insights. The work presented here represents the insights of this author – it is also hoped that this thesis will stimulate further ideas for others.

## 1.6 The initial stages

At the beginning of the research period it was not clear quite how to approach this topic. The absence of literature specifically addressing Internet ethics prompted a policy of “going out into the field” - in this case attending a variety of meetings and discussions held by concerned academics, representatives of the commercial world, consumer protection groups, and other experts.

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As the research progressed opportunities arose to take a more active role in the field, leading to a particular involvement with two working groups and a seminar series attempting to address some of the difficult issues being raised. The groups are: International Federation for Information Processing Working Group 9.2 (Social Accountability) and Special Interest Group 9.2.2 (Framework on Ethics), EURIM (European Informatics Market) Working Group on Network Governance. The seminar series was an ESRC (Economic Research Council) sponsored event spanning two years and organised by The Center for Computing and Social Responsibility at De Montfort University, Leicester: “Social Responsibility in the Information Age”.

Involvement with these working groups has provided both the “backdrop” and grounding to this research. In particular, IFIP WG9.2 and SIG9.2.2 have provided an international context to problems which are international in nature, and in all cases the meetings have grounded the discussions in *real* issues of *real* concern to many people. Most importantly perhaps, there have been concrete outcomes to the work undertaken. The author has, throughout the research period, taken a highly active part in many aspects of the work undertaken by the groups, resulting in a number of publications of professional interest. These publications are included in the appendices of this thesis, and submitted here as part of the contribution to knowledge offered by this research (Appendix A: 1,2 and 3).

Attendance at the above meetings highlighted certain conceptual difficulties (particularly in the early stages of the research period) relating familiar ideas to the new “digital” domain. Typical examples being e-mail (analogous to sending a letter), and aspects of e-commerce (modelled on mail-order shopping). These observations appeared to confirm the suggestion by James Moor of “conceptual muddles” (discussed in Chapter 2), which together inspired Chapter 5 (the impact of concepts).

Thus this research initially followed an exploratory (and necessarily unstructured) approach, which developed into active participation and led to the beginnings of a framework for understanding - an approach supported by Terry Winograd and IFIP SIG9.2.2:

“a key component of moral action is the development of understanding within a social background, which is what provides the relevant field of choice for individuals.”

(Winograd 1995: 29)

“we have to *create* an ethical community ... Social dialogue, cultural dialogue, and social responsibility are not only important words: they must be in the forefront of our action to create human networks in the age of globalization.”

(Berleur, d'Udekem-Gevers and Rolin 1999: 53)

## 1.7 Aims of the research

The primary aim of this research is to identify and understand the reasons behind the ethical challenges of the Internet. The novelty and complexity of the Internet is mirrored in the literature and numerous discussions taking place. The result is a confusing picture of the source of the ethical difficulties, and consequently the means to their resolution. This research attempts to unravel some of the complexity by following a reductionist strategy, that is, to investigate separately four perspectives of the Internet (technical, conceptual, regulatory and ethical) and provide a synthesis of the ideas and insights which have emerged.

By viewing the Internet as a complex system which incorporates technology *and* people, aspects of both are relevant to the problem. Whether the resolution of the difficulties lies within the technological domain, with the users, or both, may be easier to see by separating out these different aspects.

This “back to basics” approach aims to give insights into the relationships between the different approaches currently employed to overcome the difficulties (for example adapting concepts, applying regulation), and to determine the influences affecting the future shape of the Internet. For example, Deborah Johnson (1999) notes how policy makers determined to a certain extent the concept of computer software, making it fit into an existing legal structure.

By showing the influences at work in an evolving situation, and the importance of those influences on policy and the future shape of the Internet, this thesis looks at the subtleties behind the emergence of an *ethical infrastructure*. In the terms of this thesis an ethical infrastructure consists of those elements which together provide an ethical context, or environment – in other words the elements that influence ethical behaviour. The formation of this ethical infrastructure includes the background initiatives and dynamics of public and private discussion feeding into policy and technology.

## 1.8 Objectives of the research

The objectives of this research are:

- To present a clear foundation of the factors behind the confusion of Internet ethics thus providing a base for further work
- To provide a clearer understanding of the range of elements at work, and their impact in a broader sense
- To present four perspectives from which to view Internet ethics
- To make explicit the interrelations of human and technical factors
- To introduce the notion of an ethical infrastructure

- To emphasise the role of discourse as an aid to ethical understanding

## 1.9 Contribution of the research

This research offers a contribution to the field in several ways. Addressing the uniqueness claim from computer ethics identified problems (with concepts and ethics) and confusions, which this research has attempted to clarify. The four perspectives taken in this work, as well as providing a strategy for clear thinking, in combination give a holistic view of the factors involved in Internet ethics. In taking this approach this research thus offers a methodology for constructive thinking, (conceptual probes), and at the same time emphasises the benefits which can be gained from adopting different perspectives.

This work also makes explicit the interaction of working groups, pressure groups, and others; and their influence on the decisions which will shape the Internet in the future. By active engagement in the processes of deliberation the author of this research has made a contribution to the field as part of the process of shaping an emergent discipline. The meetings attended, and discussions within those meetings, can be viewed as experimental work which have formed (and are still forming) policy. In other words, and in research terms, this participation makes a contribution to the discipline by way of reflective practice. In addition, the publications summarising the results of group deliberations, and position statements on topics of particular concern (all publicly available), provide concrete and long-term contributions.

By raising the profile of discourse as an aid to reaching understanding and overcoming some of the difficulties within the field, this research has attempted to show the fundamental importance of discourse in an evolving, complex domain. In addition, and as a result of the insights gained in this respect, this work draws attention to an existing theory of discourse ethics which may be helpful in the Internet context.

Finally, the research provides a documentation of the ethical impact of the Internet, and the difficulties encountered during the formative years of a technology heralded as “the most astonishing technological phenomenon of the late twentieth century” (Cairncross 1997: 87). Aside from the historic value of a “snapshot” of a time of influential social change, this thesis can be used as a useful resource for further work in the field.

## 1.10 Thesis Structure

Chapter 2 gives the background to the research area bringing forward ideas from the field of computer ethics which have been a dominant influence on the approach taken to this research.

Chapter 3 sets out the methodology employed and the rationale behind the choice of method.

The following four chapters take in turn the different aspects of the area; namely technological, conceptual, regulatory and ethical. Each of these chapters follow a similar structure:

- (i) setting out the difficulties falling within that domain
- (ii) explaining the influence on the ethical “picture” of the Internet
- (iii) identifying examples of some of the problems
- (iv) proposing an approach for improvement based on the foregoing.

Each of the four chapters also have publications associated with them which are reproduced in Appendix B. They relate to the chapters as follows:

Chapter 4:	Technology	“Justice and Design”, Duquenoy and Thimbleby 1999.
Chapter 5:	Concepts	“Changing concepts: changing ethics?”, Duquenoy 2000a.
Chapter 6:	Regulation	<i>Ethics and the Governance of the Internet</i> , Berleur, Duquenoy and Whitehouse 1999. “The process of ethics”, Duquenoy and Whitehouse 2000.
Chapter 7:	Ethics	“Towards a synthesis of Discourse Ethics and Internet Regulation”, Duquenoy, Thimbleby and Torrance 1999. “The Internet and Discourse Ethics”, Duquenoy 2000b.

The final chapter (summary, conclusions and further work) brings the four aspects together and discusses the relationships between them, showing the importance of their interaction in the decisions and outcomes affecting the future of ethics on the Internet. This final chapter takes up the insights gained from the work presented here and presents some proposals for further work.

Note on references: wherever possible page numbers are given with references, where page numbers are not given it is because there are no page numbers available (in the case of articles on the World Wide Web, or on CD-ROM, as for example the Ethicomp'99 Proceedings).



### 1.11 Terminology

Before going too much further it may be useful to clarify the terminology used throughout this work. At the heart of the research question is a distinction between the Internet environment and the non-Internet environment. This may seem obvious. However, as one of the aims of this thesis is to provide a clear understanding, it is worth taking a few moments to explain some terms as they are used here.

“The Internet” is taken to encompass the facility of the World Wide Web (which is the common usage), and not simply the original Internet of government research days. The Internet as described in this thesis also incorporates the notion of “cyberspace”, which is commonly understood to be the place where interaction happens. The non-internet environment is often referred to as “real world”, but this carries the implication that what occurs around the Internet is not “real”. The preference in this thesis is for the terms “on-line” and “off-line” to denote the distinction. These terms could themselves be criticised, as strictly speaking it is not necessary to be “on-line” for some events to happen (for example storing data, hosting “cookies”, and virus damage). However, rather than getting too deeply enmeshed in the subtleties of language, the terms above should be sufficiently clear for the purposes of this work.

During the course of this research the idea of an “ethical infrastructure” emerged. It seemed to this author that in the off-line world an environment was established which provided the infrastructure for ethical practice, and that this infrastructure was lacking in the Internet environment. As explained in Section 1.7, in this thesis ethical infrastructure consists of those elements which together provide an ethical context, or environment (most obviously perhaps, legislation, but also including conceptual understanding).

### 1.12 Summary

This then is the context of the research undertaken here - a meta-level view of the Internet as a global communications technology which some believe is so radically different that it challenges the norms of ethical behaviour.

“At one extreme are those who believe that ethics cannot be about technology because it is about moral norms and concepts and since these apply to human beings, technology is irrelevant. At the other extreme are those who believe that technology, and especially information and communications technologies, are changing the world in such profound ways that the ethical issues they raise are unique and have moved us into uncharted moral territories.”

(Editorial, *Ethics and Information Technology*, 1 1-3, 1999.)

The Internet is an exciting new technology, and inspires a great deal of creative thinking. It can be easy within such an environment to get carried along with the tide of innovation, or alternatively view the projected changes with deep misgivings. Within this atmosphere of extremes it can be useful from time to time to pause and take stock of the situation. This research sets itself this task by looking beneath the hype and the opposing dismal prophecies to gain a more balanced view of “where we are now” with Internet ethics, and takes up the invitation posited by Luciano Floridi (1999b):

“Behind CE's foundationalist problem there lies a lack of a strong theoretical programme. ICT [Information Communication Technology], by transforming in a profound way the context in which some old ethical issues arise, not only adds interesting new dimensions to old problems, but *seems to invite us to rethink, methodologically, the very grounds on which some of our ethical positions are based.*” (my italics)

This chapter has introduced a number of areas of concern within the domain of Internet ethics and began with the question: Why is the Internet such an object of ethical controversy?

We could ask further:

- Is it that the issues are new and do not easily fit with traditional ethical theory?
- Do we need a new ethics?
- Is it that we find some issues are a “conceptual muddle”?
- Are the problems simply to do with regulation?
- Should we even be thinking about ethics and technology? Surely its not the technology that is the problem, its the people who use it.

These are some of the key questions raised within the field, and which this research addresses.

## Chapter 2

### Literature Review

*“Why ethics and information technology when we did not seem to need a new journal or field of study for automobile, microwave, laser, washing machine, or telephone ethics? These questions all seem to call for an account of information technology ethics that explains not just why attention should be given to the topic but what is special about information technology ... We believe there is a serious gap in what is currently available”*

(Editorial: *Ethics and Information Technology*, 1:1, 1999.)

#### 2.1 Introduction

The above quotation, written only relatively recently, reflects the puzzling nature of the relationship between Information Technology (IT) and ethics and goes to the heart of the research question stated in Chapter 1: Why the Internet and ethics? The Editors also point to the lack of publication outlets dedicated to this field.

When this research began in 1997 there was little in the way of specific literature addressing Internet ethics, consequently this research has drawn heavily on the field of computer ethics which had its origins in the United States some fifteen years ago and has been gathering strength ever since.

This chapter gives some background to the debates and discussions from the field of computer ethics, with the aim of showing how ideas from that field have influenced the direction of the research. It is not the intention in this chapter to cover the whole range of literature in the area of Internet ethics, it is rather to set the scene of how this research began, and was inspired. The broader literature relevant to the thesis is referred to throughout chapters 4-7, where it directly relates to the topics under discussion.

#### 2.2 Computers and ethics

The debate regarding the relevance of ethics to the computing science profession can be traced back to 1985. Earlier concerns regarding the human consequences of technology had been expressed by Weiner (1960), and Weizenbaum (1976), but James Moor's celebrated essay “What is computer ethics?” (1985) provided a launching pad for computer ethics, and became central to discussions for the next ten years. Much of what Moor says in this essay is still unresolved and as relevant today as it was in 1985. For this

reason, and because the essay is so important within the computer ethics field, it is worth taking some time to summarize the main points.

Moor's opening sentence declares: "Computers are special technology and they raise some special ethical issues" (Ibid: 266). According to Moor their "specialness" derives from the fact that computers are "logically malleable":

"What is revolutionary about computer is *logical malleability*. Computers are logically malleable in that they can be shaped and molded (sic) to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations ... The logic of computers can be massaged and shaped in endless ways through changes in hardware and software."

(Ibid. 269)

In other words, whatever can be expressed logically can, in principle, be expressed by a computer. Whilst this will not necessarily be a startling revelation to computer professionals it does carry certain implications. For instance, "they can be shaped and molded (sic) to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations" (Ibid: 269). As this author understands it, the warning Moor tries to convey is the danger of perceiving computers purely as "number crunchers" - he maintains they are more than that, they have a syntactic and semantic dimension, i.e. a variety of possible states and operations, which can be taken to represent anything. In simple terms, logical programming can find expression in a variety of meaningful ways - one has only to think of the range of computer-facilitated tools and accessories (from calculations to the latest graphically-enhanced computer games) to appreciate the difference between a programme and its expression. Walter Maner (1996: 145) gives this explanation: "Elevators can only do elevator-like things, but computers can do anything we can describe in terms of input, process, and output". Moor (1985: 269) summarises the essence of logical malleability: "the limits of computers are largely the limits of our own creativity" (Ibid: 269).

It is not necessarily that "representation" in itself is ethically demanding, what does provide ethical difficulties, according to Moor, are the new situations which create a "conceptual muddle" (Ibid: 266). The example he gives to illustrate this conceptual muddle is of computer programmes:

"Let's suppose we are trying to formulate a policy for protecting computer programs. Initially, the idea may seem clear enough. We are looking for a policy for protecting a kind of intellectual property. But then a number of questions which do not have obvious answers emerge. What is a computer program? Is it really intellectual property which can be owned or is it more like an idea, an algorithm, which is not owned by anybody? If a

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computer program is intellectual property, is it an *expression* of an idea that is owned (traditionally protectable by copyright) or is it a *process* that is owned (traditionally protectable by patent)? Is a machine-readable program a copy of a human-readable program? Clearly, we need a conceptualization of the nature of a computer program in order to answer these kinds of questions.”

(Ibid.: 266-7)

In essence then, computers provide us with new capabilities and these in turn give us new choices for action. According to Moor what we are lacking are adequate concepts (that is, a clear explanatory picture). Not only that, but the lack of a clear understanding makes it difficult to apply familiar policies and guidelines, leaving us with a “policy vacuum”. In other words, we have no rules to fall back on to guide us when faced with an ethical dilemma. Moor later describes policies as “rules of conduct ranging from formal laws to informal, implicit guidelines for action” (1999: 65).

### 2.3 Computer ethics and the “uniqueness” claim

Moor's essay provided a framework for academic thought in computer ethics. His claim that “computers are special technology” prompted an intellectual enquiry into the “uniqueness” of computers and computer ethics. The resulting views offered a diverse picture of the relationship between computers and ethical theory - some to a radical degree.

This section attempts a clarification of the uniqueness claim, and the variety of opinions held regarding the claim. Deborah Johnson (1999) sums up the debate:

“The controversy has focused especially on whether the ethical issues surrounding computer technology are unique. Are the issues really different in the sense that they require development of a “new ethics”? Or are computer-ethical issues simply old ethical issues in a new guise?”

Johnson's own view is that the issues are a “new species of traditional moral issues”. She believes that they involve familiar moral ideas (e.g. privacy, harm, responsibility) which can be classified into traditional ethical categories. However, the presence of computer technology gives the issues a new twist which makes it difficult to draw on “traditional moral concepts and norms”. In other words, the ethical issues are the same, but the way the situations are presented are new.

In opposition to this view is one presented by John Ladd (1991: 664) who believes that the ethical problems are a “new sort that require considerable restructuring of our traditional ethical categories”, for example “the traditional concept of privacy itself ... has no

application in the modern world of computer technology ...". He reiterates this view in a later article (1997:12) where he tells us that "the computer world presents us with a new set of problems that make many traditional concepts inapplicable and obsolete". Under a heading of "New technology and new ethics" he refers to the changing nature of moral practices brought about by "radically new technology". It appears that the new ethics alluded to by Ladd are the changes he foresees in traditional practices and values, arguing that the notion of privacy may well be irrelevant in the case of computerised information. As traditional practices become outdated we are left with a "moral vacuum" until new ones are established.

Another advocate of this view is Walter Maner (1996, 1999) who claims that we are forced to "discover new moral values, formulate new moral principles, develop new policies, and find new ways to think".

Venturing further along the "new ethics" line Krystyna Gorniak-Kocikowska (1996) takes the position that traditional ethical theories (such as consequentialism and Kantian ethics) are not appropriate in the Internet context, based as they are on a western perspective. She makes a very good case for the emergence of a new ethics, by drawing a parallel between the introduction of the printing press and its consequent social changes which set the scene for the theories of Bentham (consequentialism) and Kant.

"These ethical theories were based on a concept of the human being as an independent individual capable of making rational judgments and decisions, freely entering the social contract. Such a concept of the human being was able to emerge in great part because of the wide accessibility of the printed text."

(Gorniak-Kocikowska 1996: 182)

The global reach of the Internet will, in Kocikowska's view, stimulate a global ethics as Western ethics becomes inappropriate: "Despite their claims to universalism, Kant's as well as Bentham's concept of human being refers to European man, free and educated enough to make rational decisions" (Ibid.:183). However, this is not to say we can expect to see a new ethics in the short term - not necessarily even in our lifetime, but "just as the major ethical theories of Bentham and Kant were developed in response to the printing press revolution, so a new ethical theory is likely to emerge from computer ethics in response to the computer revolution" (Ibid.:177).

Luciano Floridi (1998) believes that "CE offers an extraordinary theoretical opportunity for the elaboration of a new ethical perspective", noting that "standard ethical theories cannot easily be adapted to deal with CE problems, which appear to strain their conceptual resources" (Floridi 1999b: 37).

These latter positions appeal for some sort of new ethics, either in the form of restructuring ethical categories, or thinking about new moral values, new moral principles, a new ethics to deal with global communication and interaction, or a new ethical perspective. Some theorists from the computer ethics field have responded in part by advancing new approaches (covered in Section 2.5).

Thus we see that the initial problem suggested by Moor, that of conceptual muddle leading to a policy vacuum, has changed to a problem with ethics (Maner, Ladd, Gorniak, Floridi). That is, from being fundamentally a problem of human *understanding* in a new conceptual environment, the problem has become one of out-dated ethical values and principles. As this author understands it these two positions have very different implications:

- If the problems encountered by computer ethics are caused by *conceptual difficulties* leading to policy vacuums, the resolution of the problem appears to lie in conceptual re-adjustment. Having achieved adequate concepts, policies can be put in place.
- If the problems are due to an inadequacy in *traditional ethics*, the resolution lies in formulating a new ethics (e.g. new values, new moral principles).

## 2.4 Confusions and “muddle”

Ironically, the uniqueness issue appears to have, in turn, generated another “conceptual muddle” (Gotterbarn and Rogerson 1997).

“This muddle has led to multiple views of computer ethics which appear to be inconsistent and in fact this muddle has contributed to some claims which are counter productive for the discipline.”

The confusion appears to rest on what is referred to as “unique”. Some authors are claiming that “*computer ethics* is unique”, implying that it is the discipline itself which is unique and warrants attention (for example Moor, 1985). Others refer to the *issues* raised by the use of computer technology (Maner 1999), and still others who think that the *situations* are unique - or in Deborah Johnson's words “new circumstances for human action” (Johnson 1999).

Suggestions for the resolution of these difficulties can be categorised as either: a conceptual approach (analysis, new concepts, categories, definitions) (Ladd, Gotterbarn); or, more radically, a new ethics - replacing traditional norms, discovering new moral values and principles (Ladd, Maner, Floridi, Gorniak-Kocikowska).

When all is said and done, there are evidently difficulties with ethics and computing technology. Does it matter whether the problems are new or unique? Don Gotterbarn (1995: 20-21) believes it does, at least in the sense of the claims that are being made.

“The inference from the newness claim is that we cannot make ethical decisions in computer ethics because we have not yet found a primary ethical principle. The uniqueness claim is even more dangerous. It leads one to think that not only are the ethical standards undiscovered, but the model of ethical reasoning itself is yet to be discovered”

Gotterbarn maintains that computer ethics is not unique and that the issues can be dealt with using the ethical approaches already at our disposal:

“I maintain that computer ethics is not unique; the ethical issues ... are either subsumable under the issues of general ethics or they are a type of professional ethics.”

(Ibid.)

The following extract, from the same article by Gotterbarn, shows his concern about this issue - which he considers “significant” and “dangerous”. He also draws attention to a gap in the literature.

“These confusions about computer ethics and the absence of a discussion about a concept of it have led to some significant confusions and dangerous conclusions. There is also a surprising lacuna in its literature.”

(Ibid.)

Some may argue that discussions on the subject of whether computer ethics, or the issues, are unique are irrelevant. They might argue that there are problems arising from the use of this technology which urgently need addressing, and a more practical approach in resolving the problems should take priority. However, in defense of the above discussion, conceptual clarification is fundamental in bringing to light the nature of the problem to be resolved. As Don Gotterbarn (Ibid.: 18) states at the beginning of his article:

“Starting from a clouded concept of computer ethics, one cannot derive clear ethical positions.”

## 2.5 Approaches in ethical theory

Some theorists within the computer ethics field have responded to the call for a new ethical approach, tackling the problem in different ways (elaborated more fully below). Jeroen Van den Hoven (1997) opts for a reflective approach originally articulated by John Rawls (1972). Bernard Gert (1999) formulates a new ethical theory based on “common morality”



which James Moor (1999) builds on, and Luciano Floridi (1999b) takes a completely different perspective by offering a new theory of “Information Ethics”.

Jeroen Van den Hoven (1997) notes the growing concern for methodology in computer ethics and advocates an approach referred to as the “Method of Wide Reflective Equilibrium” (WRE) originally articulated by John Rawls. According to Van den Hoven the advantages of this method are that it avoids the problems encountered by a generalist approach (applying abstract principles), and those of the particularist approach (dealing with individual cases). That is, it bridges the gap between theory and practice. The method itself is one of

“shuttling back and forth between considered moral judgments about a case and our moral principles, adjusting each in the light of the other and in the light of relevant background theories, in order to arrive at reflective equilibrium”

(Ibid.: 243).

As a practical example he invokes the privacy issue, pointing to data protection laws in the Netherlands (in particular regarding informed consent) which have caused problems at an institutional level. In the field of health care it is sometimes either impractical (due to the numbers involved) or inadvisable (because of causing alarm) to contact individuals for permission to use data. In the case cited, officials knowingly transgressed the law of informed consent in favour of “societal interest”. Thus he concludes that the original concerns regarding computerised data prompted a legal over-reaction which excluded societal interests. With hindsight, account should have been taken of societal interests and provision made in legislation for such research. This process of reflection and adjustment, he believes, is the best way (within the field of computer ethics) to achieve a balance between interests, whilst keeping in mind the principles to be upheld.

Bernard Gert (1999) suggests that “common morality” can be helpful in “understanding, and sometimes even resolving, some of the controversial moral problems that are arising in the field of computing”. The foundation of Gert's approach rests on the notion that many moral problems are entirely uncontroversial, and despite some disagreement on certain issues, on the whole, people do have a common morality and do in fact agree in many cases. He tells us that his account “provides a common framework on which all disputing parties can agree”.

“The moral system provides a method for distinguishing between morally acceptable answers and morally unacceptable answers; that there is not always agreement on the best solution does not mean that there is not general agreement on the boundaries of what is morally acceptable.”

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(Gert 1999: 57)

Gert takes the view that there are some moral rules which would be supported by any impartial, rational person. These he calls “justified moral rules”, such as “Do not cause harm or increase the probability of harm being suffered”. He lists ten rules (all prohibitive) which “all have justified exceptions”. Examples of the rules are: Do not kill, do not cause pain, do not disable, do not deprive of freedom. The moral problem, Gert asserts, is determining which exceptions are justified. Disagreements may turn on what counts as an adequate justification, but he claims that “what counts as an adequate justification for one person must be an adequate justification for anyone else in the same situation”. There may be stronger and weaker justifications:

“Everyone is always to obey a moral rule except when a fully informed rational person can publicly allow violating it. If all fully informed rational persons publicly allow the violation, it is strongly justified. If fully informed rational persons disagree about whether to publicly allow the violation, it is weakly justified.”

(Ibid.: 60)

To give some grounding to his theory, Gert compares his moral system with those of Kant (1785) and John Stuart Mill (1859). He gives the example that whereas the Kantian system rules out ever making lying promises, the moral system allows us to make “lying promises” in some circumstances. He says the consequentialist system is concerned only with the foreseeable consequences of the particular violation, not with the foreseeable consequences of that kind of violation being publicly allowed (which his theory addresses).

“Morality also differs from the systems of both Kant and Mill in that it does not require all moral questions to have unique answers, but explicitly allows for a limited area of disagreement among equally informed impartial rational persons.”

(Ibid: 64)

James Moor (1999) applies the above ideas to policies rather than particular issues (addressed by Gert). Moor uses the term policy in the sense of “rules” - that is, when we lay down a policy for acting we are setting out rules, or guidelines. Just as Gert's theory allows for flexibility in deciding priorities of goods or harms, so do policies allow a degree of flexibility. Moor's paper “Just consequentialism” combines the idea of justice (i.e. an impartial point of view) with consequentialism. Moor suggests that when new policies are introduced (as they are bound to be, if his notion of a policy vacuum is correct), ethical considerations need to be attended to. Using the idea of “Just Consequentialism” we can ask ourselves what the best outcomes of a certain policy are likely to be for *all concerned* (in the long term as well as the short term), taking into account possible collateral damage.

In other words, copying software for an undergraduate colleague who could not otherwise afford it (an example given by Helen Nissenbaum, 1995, and used by Moor), although beneficial to the student and argued by Nissenbaum as morally good in consequentialist terms, turns out to be morally wrong from a just consequentialist point of view. Applying the impartiality principle infers that not only would copying software be allowable in all cases, but also, in terms of collateral damage, that violating any law is allowable. Moor argues that this would be too big a risk for any rational, impartial person to condone.

The approaches described above are either implementations of existing theories (in the case of Van den Hoven's Wide Reflective Equilibrium) or subtle adaptations of existing theories (Gert and Moor). The last theoretical contribution is from Luciano Floridi (1999b), who offers a radically new approach with his theory of Information Ethics.

Along with Van den Hoven, Luciano Floridi (1999b) also notes the methodological problem of computer ethics. His answer to the problem is to take an entirely new perspective which treats computer ethics as an ethical theory in its own right. He sets out to develop a theory based on the “good” of an “information entity and the infosphere in general”. He offers this theory as a “valuable perspective from which to approach, with insight and adequate discernment, not only moral problems in CE, but also the whole range of conceptual and moral phenomena that form the ethical discourse.” Floridi argues that ethical discussions within the field of computer ethics are not actually based on the rights and wrongs of an action, but are instead concerned with what is “better or worse for the infosphere”. That is, information plays the central role, and not the actors as is the case with other ethical theories. Floridi considers his theory of Information Ethics to be similar to environmental ethics, where the object of concern is the environment. Although these theories change their focus from persons (as direct beneficiaries) to the environment (either natural or digital) in both cases there is an underlying assumption that persons will ultimately benefit from their potentially improved habitat.

## 2.6 The basis of the research

This initial literature survey sets the scene for this research in two ways.

Firstly, the confusion concerning the source of the difficulties in computer ethics, whether a *conceptual problem* or an *ethical problem*, prompted further investigation. The claims regarding conceptual muddle and ethical theory are as applicable to the Internet as they are to computer ethics. If computers create unique ethical situations, and pose difficult ethical questions, the Internet (which is based upon computer technology) will inherit some of these characteristics. In the absence of an established research base specifically addressing Internet ethics these two positions provided a starting point.

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Secondly, taking the idea of concepts and ethical theory separately provided the beginnings of a framework for the investigation. In such a new area of enquiry there is no paradigmatic method of approach, and in the absence of guidance from the computer ethics field some structured approach was sought. (A discussion of the research method is given in the following chapter.)

The view that conceptual difficulties are behind the problem is explored in Chapter 5. The consequence of “conceptual muddle”, in Moor's opinion, leads to policy vacuums which need to be filled:

“computers provide us with new capabilities and these in turn give us new choices for action. Often, either no policies for conduct in these situations exist or existing policies seem inadequate. A central task of computer ethics is to determine what we should do in such cases, i.e., to formulate policies to guide our actions.”

(Moor 1985: 266)

Chapter 6 (Regulation) looks at ways in which the policy vacuums are being filled.

It should be noted that at the beginning of the research period there was very little on offer with regard to ethical theory other than the work of Jeroen Van den Hoven (1997). The theories promoted by Gert, Moor and Floridi appeared at a later stage (1999). The initial literature review identified this gap and, taken with the claim that traditional ethical theory was proving inadequate, prompted an investigation into alternative approaches to ethical resolution. The claim for a new ethics is a radical one. Similarly, observations that traditional ethical theory is not helpful warrants an enquiry. If indeed the Internet requires a new ethical theory, then the term “Internet Revolution” which is commonly, and somewhat casually used by the media, gains increased significance. Chapter 7 discusses aspects of ethical theory with regard to this research.

## 2.7 Conclusion

In summary, this research has had to draw heavily on the literature and perspectives of computer ethics as a starting point. The focus of early debate in computer ethics surrounded the question of “uniqueness” which had been attributed to computer ethics by James Moor (1985). As well as providing background to the research area, this chapter has attempted to clarify the muddle surrounding the “uniqueness” issue, and has shown a range of opinion on what exactly is unique regarding computers and ethics. The causes of the ethical difficulties raised by computers are, according to experts, either conceptual problems, or inadequate ethical theory. James Moor suggested that computers leave us with “policy vacuums”. This research picks up on these suggestions and further investigates

the roles played by concepts and policy formation (i.e. regulation), and inadequate ethical theory.

This chapter has also given the context of the research domain, that is, the Internet and Internet ethics as a new area of enquiry.

## Chapter 3

### Method

*“This is not a field where one learns by living in libraries. I have learned everything I know from the conversations I have had, or watched, with an extraordinary community of academics and activists, who have been struggling over the last five years both to understand what cyberspace is and to make it better.”*

(Lessig 1999: Preface.)

#### 3.1 Introduction

The above quotation by Lawrence Lessig captures beautifully the spirit of the research domain of the Internet. The types of activities the Internet makes possible, although in many cases replications of activities we are used to (communications, publishing, broadcasting), are carried out in subtly new ways giving rise to a complexity of issues that are not easily understood. Simply getting to grips with what is “going on” has been one of the main occupations of the community of investigators and policy makers in this field over the last few years.

This research has been pursued in much the same way as described by Lessig. It has followed a combined strategy of immersion and participation in the field, and reflection on observations from the discussions and the processes of “ethical” problem solving.

This chapter explains the rationale behind the methods employed.

#### 3.2 Influences on methodology

The domain in which this research takes place has to a great extent determined the methodology employed. The factors which have a bearing on the methodology are:

- a new research area
- rapid development (technical, political, commercial and social)
- the research question and purpose of the research

##### 3.2.1 A new area

The Internet, although in use since the early 1980's, has only attracted interest at an ethical level in recent years. Consequently academic literature specifically addressing this subject is sparse. The first journal papers specifically addressing Internet Ethics appeared in February 1997, in a special issue of Internet Ethics (produced by the Australian Computer Journal),

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and it was only recently that the first books on the subject appeared (namely, Langford 2000, Spinello 2000, and Hamelink 2000).

The previous chapter explained the background to the research - drawn from the field of Computer Ethics. As an area of research computer ethics and Internet ethics are still in the developmental stage. In addition the field of enquiry covers a broad spectrum of approaches: broad issues such as regulation, universal access, professional responsibility, privacy, education amongst others, through to particular issues relating to technical matters (e.g. the ethical aspects of software (Gevers 1998) and software applications as an aid to ethical decision making (Maner 1998)). The range of research strategies is equally varied, but with a tendency toward descriptive research (Wong and Steinke 1998, Brey 1999).

### **3.2.2 Rapid development (technical, political, commercial and social)**

The fast pace of technological change, the increased impact of the Internet in a social context (aided by the enormous take-up of Internet access in developed countries), and the commercial promise of the Internet, have all combined to give a sense of urgency not only to the ethical debate but also to find solutions to the concerns of users. E-commerce in particular has been the driving force behind government initiatives to build trust (e.g. Department of Trade and Industry, 1998; UNESCO Infoethics Conference, 1997) and provide a secure trading environment. The tensions between providing a secure environment whilst at the same time allowing access to law enforcement bodies have been extensively debated (see for example “Scrambling for Safety”, 1999). Mason *et al* (1995: 22) recognise the circle created by the joint forces of “demand pull” and “supply push” in the area of information technology:

“The desire to use information encourages the installation of new technology; the installation of new technology stimulates ideas about new uses. Both forces form a positive feedback spiral ... moreover its global swath is expanding steadily”.

Although at one level the object of enquiry can be said to be fairly static, i.e. the investigation of ethics, the rapid developments within the research environment suggest a dynamic and fluid research strategy.

### **3.2.3 Purpose of the research and the research question**

In searching for an appropriate research strategy Robson (1993: 41) advises the investigator to consider the purpose of the enquiry. He identifies three common purposes:

- 1 Exploratory
  - To find out what is happening

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- To seek new insights
- To ask questions
- To assess phenomena in a new light
- Usually, but not necessarily, qualitative.

## 2 Descriptive

- To portray an accurate profile of persons, events or situations.
- Requires extensive previous knowledge of the situation etc. to be researched or described, so that you know appropriate aspects on which to gather information.
- May be qualitative and/or quantitative.

## 3 Explanatory

- Seeks an explanation of a situation or problem, usually in the form of causal relationships.
- May be qualitative and/or quantitative.

These classifications of purpose relate to the three traditional research strategies - experiment, survey, case study - in the following way (Ibid.:40):

- case studies are appropriate for exploratory work;
- surveys are appropriate for descriptive studies; and
- experiments are appropriate for explanatory studies.

Elaborating on the qualities of each approach he suggests (Ibid.: 43):

“There is a further sense in which the flexibility of the case study strategy lends itself particularly well to exploration; a sense in which certain kinds of description can be readily achieved using surveys; and a sense in which the experiment is a particularly appropriate tool for getting at cause and effect relationships. *However this is not a necessary or immutable linkage.*” (my italics)

Following Robson's guidance on the purpose of the chosen method a case study strategy appears appropriate to this research, in that this research is of an exploratory nature (i.e. to find out what is happening, to seek new insights, to ask questions etc.) and needs a strategy which is fluid (Section 3.2.2.).

A further consideration when deciding on a research strategy, according to Robson, is the research question (1993: 43). Following the guidelines set out in Robson's table (Table 2),



the “why” question (“why is the Internet the cause of such ethical controversy?”) falls within both the explanatory and case study approach.

*Table 2: Appropriate uses of different research strategies<sup>1</sup> (Robson 1993: 43-44)*

Strategy	Type of research questions	Requires control over events?	Focus on current events?
experiment	how why	yes	yes
survey	who what* where how many how much	no	yes
case study	how why	no	usually but not necessarily

\* some 'what' questions are exploratory; any of the strategies could be used.

Robson does point out that the above classifications are only guidelines and are not exclusive either of each other, or of other methods. He tells us that it is possible to have “hybrid strategies” or in some cases it “can make a lot of sense to *combine strategies*” (Ibid.: 41). This fluidity of strategies is also advocated by Martin Bulmer (1984). In an assessment of the “fit to task” of widely used research methods in the social sciences, Bulmer makes the point:

“The overall research enterprise is characterised more adequately by its concern with problems than it is by an excessive devotion to a remote experimental ideal”

(Ibid.: 12)

### 3.3 In retrospect

This research began with an exploratory strategy appropriate to the investigation of a new area of research. In attempting to understand the influences contributing to the ethical debate concerning the Internet, a fluid research strategy was sought.

Immersion in the field offered a way to find out how experts were dealing with the new issues, and it was hoped that some insights could be gained from these observations. To this end the author attended meetings and seminars specifically addressing the ethical issues which were causing concern, and became an active participant in two working parties investigating Internet governance. The airing of concerns and suggested methods of solution expressed within these working parties, meetings and seminars, captured the views of the

<sup>1</sup> Robson advises he has adapted this table from Yin, 1989, p.17; and that Yin also considers archival analysis and 'histories' which are not covered in the text Robson uses.

people involved at that time. Such an environment provides a rich source of information for the researcher, and gives a realistic view of the current state of affairs. Tim Berners-Lee, in describing his vision of shared knowledge (ultimately expressed via the World Wide Web) notes how important points from meetings can be subsequently lost in the process of paper writing and publishing (Berners-Lee 1998: 163).

Although the author was unaware of this at that time, this strategy is closely aligned with Robson's (1993: 26) account of a successful starting point for research, as Table 3 (below) shows.

*Table 3: Features considered by researchers to characterize the antecedents of their successful and unsuccessful research (Robson 1993: 26)*

***Successful research develops from:***

- a**    *Activity and involvement*    Good and frequent contacts both out in the field and with colleagues
- b**    *Convergence*    Coming together of two or more activities or interests (e.g. of an idea and a method; interest of colleague with a problem or technique).
- c**    *Intuition*    Feeling that the work is important, timely, 'right' (rather than logical analysis)
- d**    *Theory*    Concern for theoretical understanding.
- e**    *Real world value*    Problem arising from the field and leading to tangible and useful ideas.

***Unsuccessful research starts with:***

- a**    *Expedience*    Undertaken because it is easy, cheap, quick or convenient.
- b**    *Method or technique*    Using it as a vehicle to carry out a specific method of investigation or statistical technique.
- c**    *Motivation by publication, money or funding*    Research done primarily for publication purposes rather than interest in the issue.
- d**    *Lack of theory*    Without theory the research may be easier and quicker, but the outcome will often be of little value.

(Adapted from Campbell et al., 1982, pp. 97-103.)

In retrospect, the methods employed conform to Robson's account of exploratory research described above (to find out what is happening, to gain insights etc.), and to a case study approach, wherein the Internet with its related ethical concerns is the case to be studied.

According to Robson (1993: 146) a case study is:

“a strategy for doing research which involves an empirical investigation of a particular *contemporary phenomenon* within its real life context using multiple sources of evidence”. (my italics)

The case study approach answers the methodological issues of doing research in a new area, and is appropriate to the research question. This type of strategy is also appropriate in an area of research which is undergoing change, and in this situation an immersive,

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participatory approach has many advantages. Discussing the relative advantages and disadvantages of different research methods Bulmer (1984: 27) notes:

“Social surveys for example dictate a stance toward the invariant and stable features of social reality, *while participant observation assumes a reality continually in change and flux*” (my italics)

Robson also points out that a case study may develop into action research, and that “hybrid” strategies may be appropriate (1993: 52). Both strategies can incorporate participation; in case studies participation is optional, whereas in action research participation takes a central role. The distinguishing feature of action research from a case study is “action”, that is the action of the participant contributes to a changing situation. So, for a case study the participant is an observer (who may take some role within the situation to establish credibility and encourage trust); in action research the participant is usually a “practising professional” (and recognised as such by the community within which they are operating) working with the community to effect a change (Winter 1996; Cunningham 1988).

This research incorporates both the case study and action research models in the following ways:

- It addresses the "case" of the Internet by decomposing it into four areas of investigation, corresponding to chapters 4 to 7. The choice of the four areas was determined by the technological underpinning of the Internet, and the literature review - as explained in Chapter 1 (p.10) - and whilst they are not claimed to be a complete partitioning of the field, their coverage is sufficiently comprehensive to provide the basis for a substantial guide to influences on behaviour.
- Active participation in the three working groups constitutes action research, in that the discussions and publications produced were ongoing activities directed at raising the awareness of practising professionals, thereby effecting change.

Working within these groups (IFIP WG9.2 and SIG9.2.2, CCSR, EURIM) - comprised of practising professionals in ICT - provided the chance to (i) be informed of current developments in a fast moving domain, and (ii) personally contribute both to the discussions and the achievements of the groups. This contribution resulted, in all three cases, in the production and publication of informative pieces of work directly addressing issues of ethics, and primarily aimed at influencing professionals in the field. Robson makes the point: “It is taken as given that all enquiry is concerned with *contribution to knowledge*. Real

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world enquiry also commonly seeks a potential usefulness in relation to policy and practice” (Robson 1993: 42).

The following section describes more fully the aims and scope of the working groups, and the resulting actions.

### **3.4 The working groups**

At the beginning of the research period the aim of “going out into the field”, i.e. attending the ETHICOMP'98 conference, the ESRC seminar (September 1998) and the IFIP WG9.2 meeting (Farnham 1998), was to find out first hand what the experts in the field were concerned with. That is, a survey of the field gained from first hand accounts and the most current literature available.

These meetings confirmed the impression of a new domain, concerned by anecdotal evidence and media reports of “unethical” behaviour, and unsure of how to proceed. The paper presented as part of this research at the ETHICOMP'98 conference, and included in this thesis (see Appendix B:1), summarises concerns expressed by UK information technology professionals regarding the implications of IT in 1997. The types of issues, and nature of the concerns expressed in that paper were, with hindsight, a fair reflection of the general mood at that time. Many of the issues, such as individual isolation, the accessibility of pornography to children, a new social distinction of “information rich and information poor”, personal data and privacy, and so on, have been a part of ongoing discussions in the media, governments and academia since then, and the subjects of legislation and research.

The meetings attended in the first year of the research period led to the opportunity of further personal involvement in working parties and other groups addressing the challenge of ethics and computer technology. The ETHICOMP'98 conference led to an involvement in a series of seminars (conducted over two years) instigated by Prof. Simon Rogerson of the Centre for Computers and Social Responsibility (CCSR) and partly funded by ESRC (Economic and Social Research Council). The July 1998 meeting of SIG 9.2.2 led to the opportunity to act as rapporteur for the group's workshop and round table initiative at the TC9 conference “Human Choice and Computers” in August 1998, and continuing active participation with that group (becoming Secretary of WG9.2 in July 2000). An opportunity also arose to act as rapporteur for the EURIM working group on regulation and e-commerce during the period November 1998 to February 1999.

These three groups have distinct roles to play in relation to the bigger picture of the Internet and its ethical impact: policy in government (EURIM), computing professionals (IFIP), and research policy (CCSR/ESRC). The members of these groups, although all professionals in

IT, come from different cultures and communities and thereby provide different perspectives whilst aiming at a common goal: that of addressing the ethical and social concerns raised by IT and the Internet. EURIM aims to provide advice to the UK government, the members mainly coming from the (UK) commercial sector (and with some stake in the outcome of any regulation). The members of the IFIP group are a mixture of academics and IT professionals with an international background, who have an interest in the ethical and social issues raised by computers. The ESRC seminars were attended mainly by UK academics (although practising non-academic professionals were at each seminar to “ground” the discussion in “real-world” activities) with the aim of assessing the pressing research agenda.

This research has not only been informed to a great extent by participation in these discussions, but has also made a significant contribution to the field in concrete and less concrete terms. Less concretely, but nevertheless vital to the process of knowledge-building in a new domain, is the verbal sharing of tacit knowledge, relevant information, and informational resources, and the explicit expression of views and pertinent questions. These processes together constitute the "action" in this research, and therefore the author's active role in each group is described below, set within the context of the particular working method adopted by the different groups (sections 3.4.1 -3). The written outcomes of these actions are recorded in section 3.4.4.

#### **3.4.1 ESRC**

In the case of the ESRC seminars a position paper was submitted prior to the event to give a basis for discussion on the day. At the beginning of the day invited speakers gave some background to the topic, and were followed by a workshop session. Attendees divided into groups (headed by a facilitator) with a remit to discuss a specific aspect and report back following their deliberations. The seminars were hosted by universities and held at different locations in the UK.

Personal Activities:

- Submission of position papers
- Instrumental in organising the event hosted by Middlesex University on "virtual education"
- Facilitator and reporter for one of the discussion groups at the Middlesex event
- Author of the chapter "virtual education" in the final published report

#### **3.4.2 IFIP**

The IFIP meetings were similarly held in different locations (in Europe), and were held over three days (the first day to cover SIG9.2.2 tasks, the remaining two days for WG9.2

business). These meetings follow a pre-set agenda and are minuted. In addition to this traditional approach, the group has introduced a novel, and informative, initiative - referred to as "teach-ins". These are presentation sessions (up to one hour) which can be used by attendees to put before the group pressing issues, or ideas for discussion.

#### Personal Activities:

- Rapporteur for the rolling workshops and round table event at the HCC5 conference in Geneva (see above)
- Co-author of the monograph arising from the above event
- Presentations at the "teach-in" sessions January 1999, 2000 and 2001 (preliminary versions of the papers forming the background to Chapters 4 and 5 of this thesis, and a summary of the whole thesis)
- Instrumental in organising the three-day meeting held at Middlesex University in July 2000
- Acting Secretary for the WG9.2 group in July 2000

#### **3.4.3 EURIM**

EURIM operated in a slightly different fashion. The meetings were held in London (appropriate to the group's links with Parliament) at least once a month. Each working party consisted of a "core" group who investigated the issues and discussed policy prior to setting their ideas before the larger working group. This made the discussion time in the larger group more efficient, the core group having prioritised and condensed information and ideas which were presented in a draft "briefing paper". This paper would then be discussed in a larger consultation meeting, and a final paper produced.

#### Personal Activities:

- Rapporteur for the core working group
- Introduction of a university viewpoint (as the sole academic representative)
- Author of the first draft briefing paper

#### **3.4.4 Concrete outcomes**

In concrete terms this dynamic input is made more permanent in written form before and after the discussion meetings. Some preparation is necessary before meetings: in a one-off situation this may take the form of a position statement; in on-going meetings documents need to be amassed, summaries made of previous meetings and their outcomes noted. In all cases the specific purpose of the documentation is dissemination to a wider audience - to stimulate thought, further knowledge, and in some cases provide advice (as in the case of EURIM). These documents have been made "public" both digitally (the Internet) and in more traditional ways (conference proceedings, monographs and formal reports). They are

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listed below, and included as appendices in this thesis as forming part of the contribution of this research.

- (1) IFIP SIG9.2.2 (Appendix A:1)  
*Ethics and the Governance of the Internet*. Jacques Berleur, Penny Duquenoy and Diane Whitehouse (eds.). IFIP, Laxenburg - Austria.
- (2) Centre for Computing and Social Responsibility (Appendix A:2)  
*Social Responsibility in the Information Age*. N. Ben Fairweather and Simon Rogerson, with Jackie Rafferty, Penny Duquenoy and Chris Megone. De Montfort University, 2000.
- (3) EURIM (Appendix A:3)  
“The Role of Self-Regulation in Electronic Commerce”. EURIM (European Informatics Market) - Briefing No. 25 , March 1999.

The dynamic interaction resulting from the working groups has both immediate and far reaching effects which, it is hoped, are beneficial to the participants, the wider research community, policy makers and ultimately the general public.

### 3.5 Conclusion

This chapter has argued for the exploratory, and active, approach taken in this research project. The fact that this research has been conducted in a relatively new domain which is still developing has been a major influence in the choice of research method.

Whilst the initial involvement with the three working groups was in a sense, opportunistic, the diverse objectives of the groups contributed to a well-rounded picture of the problems besetting the field of Internet ethics. Full commitment to the groups was rewarded by acceptance within the different communities, which resulted in discussions and papers beneficial to this research. This active role also allowed for the testing of the ideas in this thesis, and the feedback gained stimulated further reflection. This chapter has also emphasised the important role of discussion and expert interaction in new and fast-moving domains such as the Internet.

The strategy adopted has been beneficial not only to this particular work, but also contributes to the wider knowledge of the field in the form of discussion, and ultimately by the publication of material to practising professionals.

## Chapter 4

### Internet technology and ethics

*“From a narrow technical viewpoint, it is easier to see the world of the Global Information Infrastructure, the backbone of an on-line society, as a set of networks passing packets of data across media to the global community without any moral component. This definition may be technically accurate, but it fails to attend to the true significance of this technology: as the dynamic “information superhighway” of the world. As such, it contributes to human well-being.”*

(Grodzinsky 1999)

*“The prevailing trend is to think that all possible problems can be fixed by technological means that do not require ethical reflection”*

(Hamelink 2000: 6)

#### 4.1 Introduction

The form of this chapter takes two parts – which are reflected by the two quotations above. The first part aims to show how ethics can be displaced by technical descriptions, and the second part looks at the technological “fixes” developed in response to ethical concerns.

The first section introduces the Internet in its technical context and shows how terminology has ethical “side effects”, which can lead to the view that technology is ethically neutral. It is noted that despite the contemporary trend which acknowledges an ethical aspect to technology, leading figures in the ICT world are still espousing the neutrality of the latest technological developments. Whether or not technology is neutral is important to the allocation of moral responsibility. If technology is neutral then any responsibility for ethical outcomes must go to the user, and not to the designers. This first part of the chapter shows that design values are incorporated in the technology, and imposed upon the end user. Design thus plays a vital role in the ethical world, and a case can be put for ethical design practices.

The purpose of this chapter is to emphasise the relationship between the technology of the Internet and the ethical issues it raises. In the second part, specific examples of the technological response to censorship, privacy and security issues are given to further illustrate the close ties between technological design and its ethical consequences. By looking at examples of technical solutions to problems of the Internet (such as the Platform



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for Internet Content Selection (PICS)) we can see the ethical dilemmas raised by technology. The examples are not intended to be highly technical. More comprehensive and detailed technical accounts are beyond the scope of this thesis and are more appropriately found from other sources (for example, the World Wide Web Consortium - [www.w3.org](http://www.w3.org)). The discussion shows that technical solutions are not the whole answer, and indeed raise other ethical issues.

The aim of this chapter can be summarised as follows:

- to note the influence terminology has on ethical design
- to emphasise the importance of the role played by computer professionals (particularly designers) to Internet ethics, and underlying that,
- to emphasise the need for ethical awareness in design
- to clearly show that solving ethical problems with technology is only part of the answer.

## 4.2 A Technological viewpoint

Robert Kahn (co-inventor of the Internet with Vint Cerf), gives a formal definition of the Internet:

““Internet” refers to the global information system that -- (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein”

(Kahn 1997)

According to this description the Internet is simply a technical structure. It gives no clue to the ethical and social consequences of the type of communication this system allows. Such a description illustrates how it is possible, as a computer professional, to be unaware of the ethical consequences of technology, and to deny responsibility for the consequences of such innovations in the wider world. Robert Cailliau, who in conjunction with Tim Berners-Lee invented the World Wide Web, specifically denies any responsibility for the changes the Web has brought, claiming: “Scientific knowledge and technology in themselves are neutral” (Marchant 2000: 43). In this interview Cailliau makes a distinction between technology and the use (or abuse) to which it is put; firmly placing ethics in the sphere of the users. A similar point of view was taken by David Svendsen (2000), Chairman of Microsoft Limited, addressing the “ethical and spiritual implications of the Internet”. He believed that the Internet “exaggerates our ethical behaviour and makes it more visible” but

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that the Internet is “no more than a car”. He concludes: “The Internet is neither good nor bad”.

Two contentious issues arise from the foregoing comments. One is Robert Cailliau's remark which puts scientific knowledge and technology in the same domain, the other is the purely instrumental view adopted by David Svendsen.

To take Robert Cailliau's remark first. If one subscribes to the view that scientific knowledge is discovered, it is stretching the point to include technology in that concept. Scientific knowledge and technology are two different things, the first is acquired the second is created. To talk about technology in the same breath as scientific knowledge abstracts the active human involvement in the creation of technology, thereby devolving any responsibility for the consequences of that creation. The second, instrumental viewpoint has similar outcomes. The first simply denies any moral responsibility on the part of the creator (and puts responsibility we know not where), the second specifically shifts responsibility to the user. Referring to technology in morally neutral terms, unsurprisingly, encourages a position of moral neutrality by those who are closely involved with it.

Hamelink (2000: 26) notices a similar trend whereby references to new social paradigms and an “information revolution”, disconnects the so-called information age from its historical and social origins. In other words, that technology just happens, and is somehow created in a “socioeconomic vacuum”.

“The information society scenario refers to ICTs as disembodied, independent factors. It takes a 'tool centric' perspective that abstracts from institutional settings ... when ICTs are perceived as an 'enabling tool', there is usually more emphasis on technology as a disembodied variable than on the institutional arrangements within which it functions”

The focus of Hamelink's argument is that institutions, and the policies of those institutions, have as much social influence as ICTs. This is a slightly different angle to the one promoted here, but the essence of the argument is the same, which is that disassociating technology from the designer element gives an unrealistic view of the human role that detracts from any sense of moral responsibility.

This is not a new insight, observation or argument, the debate on the moral neutrality of technology goes back at least to Norbert Wiener (1960). What is interesting, is that the purely instrumental view of technology is still put forward today, and even more interesting is that such a view is espoused by leaders of the new “information age”. Interesting, but not perhaps surprising. According to Hamelink (2000: 6):

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“Throughout the history of technological innovation its main architects have often denied their moral responsibility. This is the 'Frankenstein syndrome' ... In Shelley's story [1818] Frankenstein symbolizes the refusal of science and technology to accept moral restrictions, the inclination to be guided by considerations of 'engineerability' only, and the tendency to reject liability when undesirable effects occur. This amoral attitude on the part of the inventors is ever more problematic as more and more people - given the complexity of modern technologies - tend to delegate responsibility for technology choices to the experts”.

### 4.3 Linking technology and ethics

A slight shift from the above position, which denies moral responsibility, towards acknowledgement of the social and ethical consequences of technology is taken by Tim Berners-Lee (1999), the originator of the World Wide Web.

The origins of the Web began with the technical problem of compatibility between networks which severely constrained the sharing of information between users. The concept of the Web, in essence, was to enable such sharing. Berners-Lee wanted to move from the traditional hierarchical structure inherent in computer systems, to a decentralised system accessible to, and by, all. The setting up of the World Wide Web Consortium (W3C) in 1994, and his involvement with it, sprang from his vision of the Web as an open environment: “The Web Consortium tries to define protocols in ways that do not constrain the norms or laws that govern the interaction of people.” He thus recognises the role of technological design as an enabling or constraining factor in social and ethical behaviour.

Although Berners-Lee maintains the neutrality of W3C with regard to commercial enterprises and politics, he does not underestimate the facilitating role of technology in social interaction:

“Since the Web is a work in progress, the consortium seeks to have a dialogue with policy makers and users about what sort of *social interactions the Web should enable*. Our goal is to assure that the Web accommodates the maximum diversity of public policy choices. In areas like freedom of expression, privacy, child protection, intellectual property, and others, governments do have a role. *The kinds of tools we make available can help assure that those laws are effective, while also ensuring that individuals retain basic control over their online experience*” (my italics).

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The World Wide Web Consortium further acknowledge the facilitating role of technology with their “Web Accessibility Initiative” which promotes “a high degree of usability for people with disabilities”<sup>2</sup>.

This “enabling” and “constraining” aspect of the technology of the Internet is the subject of Lawrence Lessig's insightful work, *Code and other Laws of Cyberspace* (1999). Lessig describes the influence of the design of the Internet (i.e. the architecture) on the choices available to us in our communication interactions. This is at the heart of the matter. Choice may or may not involve personal values, some choices may be made randomly without much thought, other choices express a preference for one value against another. There are two levels of choice at work with the Internet: there is obviously the choice of its users as to how they will use it, and in whatever ethical way it will be used; prior to these choices however, are the choices of the designers and innovators - these choices will allow certain practices and constrain others.

Lessig argues that, despite the popular impression of the Internet being “irregulable”, it is already highly regulated (by programming code). This being the case, design choices have a crucial impact on what users may be allowed to do (or conversely, not allowed to do). Furthermore, if this line of thinking is pursued, policies can, and will, be “designed in” to the Internet. Wherever policies originate, whether from individuals or groups, they can be expressed through design. We have already seen that the policy of Tim Berners-Lee - to create an open, shared environment - specifically led to the design of an environment which enabled that to happen. If corporations, such as Microsoft, have a policy to exclude competitors, that too can find expression in design. If governments call for particular policies (for example, China has a policy of restricted access to the Internet), these can be “designed in”.

For those involved in the computing profession to say that the Internet is “only a tool” is at best misguided, and at worst dangerously misleading. At the very least it encourages a lack of moral thinking in the design process. Once moral thinking is excluded from design, it is easy to justify an abdication from moral responsibility. It could also be argued that the implications for the user are far worse. Users, through ignorance, are a vulnerable group. If experts deny the ethical relevance of technology the user, by default, is denied the right to

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<sup>2</sup> <http://www.w3.org/WAI/about.html>

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have their ethical concerns taken seriously<sup>3</sup>. Not only that, if the user is led to believe that technology is “no more than a tool” they are also likely to be unaware of the possibility of manipulation, and furthermore will be ignorant of how “things could be better”.

Raising awareness of the link between ethics and technology within the professional community has been one of the objectives of this research project. Throughout the research period a variety of endeavours have been made to achieve this end, through published papers and through discussion. One way of encouraging ethical design is to show the relevance of ethics to technology, and to relate ethical theory to design practice in terms familiar to those engaged in the profession.

#### **4.4 Introducing ethics to design**

The paper “Justice and Design” (Duquenoy and Thimbleby 1999, see Appendix B:2) attempts to show how John Rawls' Theory of Justice, and in particular his idea of the “veil of ignorance”, can be usefully employed within the design sphere to promote “fairness” in design. The remaining paragraphs in this section are from that paper, and part of this author's contribution to that work. An earlier version of this paper was presented at the IFIP SIG9.2.2 meeting in Namur, 1999.

The Rawls theory of justice emphasises justice as fairness, arriving at two fundamental principles - liberty and equality. This theory is intended for application in a political sphere, and as such addresses social, rather than individual, ethics. The essential idea is of a social contract - the key elements of the Rawls theory are “the original position” (the veil of ignorance) and the two principles of liberty and equality.

Rawls uses the idea of the original position to provide a justification for the basic principles, which constitute his theory. The strategy aims to disassociate the individual from preconceptions and prejudices by adopting a starting point (original position) of “ignorance.” From this position, the individual is free to perceive the world from any potential vantage point - unencumbered by inherited social status. Thus the original position is a device for ensuring an equal starting point, and from this point the individual perceives the world through a veil of ignorance. This gives the basis for entering a fair social contract. According to Rawls, “The original position is defined in such a way that it is a status quo in which any agreements reached are fair. It is a state of affairs in which the parties are equally

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<sup>3</sup>An analogy can be made with the recent farming crisis in Britain regarding BSE, where the government dismissed the concerns of the populace by repeatedly citing the opinion of experts that there “was no evidence to suggest ... that humans could be vulnerable to the disease”. In other words, they were told their fears were ungrounded. This turned out not to be the case.

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represented as moral persons and the outcome is not conditioned by arbitrary contingencies or the relative balance of social forces.” (Rawls 1972: 120)

It is Rawls' argument that a search for basic principles to underpin a social contract, from the perspective of the veil of ignorance, must result in the two principles of *liberty* and *equality*.

- The *principle of liberty* ensures against persecution, discrimination, and political oppression.
- The *principle of equality* allows each person of equal ability and motivation the same chance of success, regardless of social status.

This theory then, addresses issues of rights and social advantages and disadvantages. These issues are very much incorporated into the design sphere, they are highlighted in today's technological society and are particularly magnified by the Internet. For example, the Internet has raised issues of the right to freedom of expression, and equality of access (in financial terms and in terms of technological capability).

There are inequalities between designers and user, by definition designers will have more knowledge of these systems than most users. Rawls recognises this natural inequality in a social system, and utilises it within a third principles (the “difference” principle) which states that inequalities are justified only if they benefit the worst off. Therefore, the inequality in knowledge, which exists between the designer and potential user, can only be justified if the designer uses that knowledge to benefit the user. So, for example, in a design context those who have the advantage of say expertise and knowledge, should use that to give benefit to the otherwise disadvantaged.

The theory (being a political theory) is specifically a “group” ethic, to be utilised in the group situation, rather than an individual ethic. Individual ethics are notoriously difficult to apply in group situations. Design is a group situation. Things that are designed are designed (usually) for groups. This applies particularly to technology. In addition, it is usually the case that groups are involved in the design process, and that the resulting artefact will have an impact on groups of people. (The manufacturing and marketing industries are based on these assumptions.)

However, the approach has advantages and disadvantages. The advantages are:

- The theory applies to social groups, and is therefore designed for use by groups. Design is (usually) for groups, by groups and impacting on groups.

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- The theory provides worthwhile aims, liberty and equality, with which people can identify.
  - The concepts of liberty and equality are well understood in western society, those involved in design are not required to make great mental “shifts” to incorporate new concepts.
  - The theory calls for a fair and equal impact on society, fitting well with the current trend in Information Technology.
  - Equal rights includes minority groups who therefore have a right to be “designed for.”

The disadvantages:

- The favoured method of manufacture (i.e. mass production) is not geared to minority groups (very often the less advantaged).
- Designing from a veil of ignorance requires designers to “imagine” all possible users - an unlikely, if not impossible, scenario.
- Is it even desirable to design an artefact for all possible users?
- It is arguable whether it is even possible to design an artefact for all possible users (e.g. international user interfaces that work in other cultures.)
- The theory is not viable in some areas of design (i.e. where there is a deliberate choice of inequality, such as missile design.)

The hypothetical model of a social contract brings an explicit ethical focus into our working world. Is such a contract applicable in the area of design? We believe that the notions, arguments and concepts presented by Rawls can be applied to the area of design, and that the resultant outcome is as beneficial to the “user society” as Rawls implies it would be to the “political society.” Politics refers to “rights” - in a design context does the user have rights? If so, according to Rawls' theory, the notion of equal rights comprises not only the right to equal treatment, but also the right to treatment as an equal.

Thus the ideas put forward in the paper “Justice and Design” seek to redress the imbalance of power (noted in the previous section) in a practical way.

#### **4.5 The Internet and ethics**

The previous section introduced the idea of technology designers adopting an ethical stance in their design approach, implying a conscious choice of applying ethics to design. The aim of this section is to show that with or without conscious ethical reflection there is a direct connection between computer technology and ethics. We look at some specific features of the Internet which set the conditions for behaviour, beginning with the underlying architecture of the Internet which sets the regulatory tone, and then moving on to discuss

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certain conditions which the architecture allows: anonymity, scope, reproducibility, and “easiness”.

#### 4.5.1 Architecture

The architecture, according to Lessig (1999), sets the regulatory tone of the Internet. Regulation means the same as allowing certain things to happen, and constraining others. The technology of the Internet cannot be divorced either from the behaviour of the people who use it, or the behaviour it exhibits itself which has been designed into it. As Lessig (1999: 30) says: “the nature of the Net is set in part by its architectures, ... the possible architectures of cyberspace are many. The values that these architectures embed are different, and one type of difference is *regulability* - a difference in the ability to control behavior within a particular cyberspace. Some architectures make behavior more regulable; other architectures make behavior less regulable.”

The difficulties of regulation (in the traditional, legal sense) are noted by Spinello (2000: preface), who also expresses the popular image of the Internet as a “new frontier land”:

“is a challenge to legal systems, which have had a difficult time keeping up with this global technology. In the past, the Internet was an unstructured electronic terrain, a frontier with few rules and restrictions”.

The difference in physical space is picked up by Mark Stefik (1999: 11) but with the emphasis on cultural impact: “As the effects of borders are reduced, a country's cultural life is equally subject to influence by actions taken elsewhere in the world.” His argument is that the “cost” of distance to social interaction is reduced (i.e. distance no longer forms a barrier either by time or space), with the result that the effects of a “local” action may be felt in any other place. He describes something of a ripple effect, saying that the Internet “amplifies change ... by reducing the power of distance ... The fan-out effect of the Net can cause multiple changes at many distant locations.”

However, Stefik also points out (in a similar way to Lessig) that the Internet is not without barriers. Barriers are deliberately made in, for example, chat rooms, intranet gateways, and encrypted “digital envelopes” (1999: 14).

#### 4.5.2 Scope, anonymity, reproducibility

Deborah Johnson (1997) picks three other features of the Internet, which although not inherent in the infrastructure are a consequence of its technological design. They are: scope, anonymity, and reproducibility. One individual can send one message to a vast number of other people, and can do so very quickly. Although other technologies (telephone and



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television) have part of this capability (speed and broadcasting capacity respectively) the Internet combines these facilities, and furthermore allows a two-way interaction. Although anonymity is possible in the off-line world, it is very easy to be anonymous on the Internet. Anonymity raises questions of integrity and inhibits the development of trust, a fundamental ingredient in social interaction. Finally, the Internet allows information to be reproduced (any number of times), and without damage to the original, that is, copying can take place without the knowledge of the author. Copies can be indistinguishable from originals, or originals can be altered without the knowledge of the author.

#### 4.5.3 “Easiness”

The Internet makes many things easy. The previous paragraph observed how easy it is to be anonymous. Weckert (2000) notes the ease of duplication and replication, and Lessig (1999: 22) uses an example of searching to show how much easier, and therefore less costly in a number of ways, this technology is.

“The ordinary or paradigm case is a search that carries costs: the burdens of the search, the insecurities it might create, the exposure it might make possible to invasions beyond a legitimate reach. The worm erases those costs: the burden is gone, the search is (practically) invisible, and the searching technology is programmed to find only what is illegal [in this example]”.

(Lessig 1999: 22)

The ethical consequences of the “easy” character of the Internet are summed up by Spinello (2000: ix): “If it is easier to publish and spread truthful and valuable information, it is also easier to spread libel, falsehoods, and pornographic material. If it is easier to reproduce and share digitized information instantaneously, it is also easier to violate copyright protection. And if it is easier to build personal relationships with consumers, it is also easier to monitor consumers' behavior and invade their personal privacy.”

## 4.6 Raising problems

As early as August 1994 problems of use of the Internet were envisaged. Vint Cerf, at that time President of the Internet Society, drafted some guidelines for conduct on and use of the Internet (Cerf 1994). It is interesting to see the types of issues considered noteworthy by one of the founders of the Internet, i.e. one of the creators of the technology which is the focus of this work. The potential problem areas envisaged by Cerf are:

- Privacy
- Security
- Intellectual property (the issue of ownership)

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- Mailing lists, newsgroups, and bulletin boards
  - Advertising
  - Capacity of transmissions (MBONE)

The first three still dominate the debate today, and are considered urgent. The latter three items on the list have not received so much interest - perhaps due to controls being exercised by Internet Service Providers, and the establishment of codes of conduct. The capacity of transmissions in itself is not seen as an urgent problem as yet, although problems have been experienced with virus attacks resulting in system overload, thus prohibiting access to legitimate users.

Privacy and security are seen as key issues for the success of e-commerce, and as such are considered a high priority for resolution. A newsletter of September 2000 published by EURIM (an organisation working closely with the UK government) comments:

“The recent publicity given to internet banking and e-transaction security breaches and the “theft” of files of personal information gives added urgency to the need to ensure the widespread adoption of routines which not only meet legal requirements but also *help turn timid browsers into confident and satisfied repeat buyers.*” (my italics.)

In other words, users do not trust the system enough to give credit card and personal details over the Internet. Inspiring trust and giving reassurance regarding integrity are initiatives encouraged by a number of high level institutions (OECD 1998, UNESCO 1997, DTI 1999, IEE 1998) to raise consumer confidence, mainly in response to the “golden egg” of e-commerce. Technological solutions to these concerns are described in the following section.

The third concern on Vint Cerf's list which has been the subject of great debate is Intellectual property. This issue is considered in Chapter 6 (regulation), as the concerns are to do with restricting access to software via legal measures (as opposed to technical regulation), and therefore will not be discussed here.

One issue not foreseen by Vint Cerf is the availability of pornographic, or “illegal and harmful” material to a diverse consumer group (including children). This was a subject of immense concern in 1995 (elaborated in the following section) and is an increasing cause for concern today.

## 4.7 Solving problems via technology

Using technology to solve the problems created by technology is a natural answer. The World Wide Web Consortium, aware of the detrimental effect of the previously noted concerns regarding the Internet, have taken a primary role in initiating technological responses to the problems of privacy, security and content.

### 4.7.1 Privacy

Issues of privacy are a prime concern of users, and lack of confidence in the ways personal information may be used on the Internet is seen as a major obstacle to e-commerce and the future expansion of the Internet (Laetitia Rolin 1999: 31). In the same context Rolin notes that:

“the [Federal Trade] Commission has demanded that effective self regulatory measures should be implemented before early 1999”

(ibid: 32)

The motivation to address this issue therefore has strong grounds - to encourage use of the Internet and to meet government demands. The World Wide Web response to this problem is their “Platform for Privacy Preferences” project, the aim of which is to develop an automatic negotiation system which could interact between the user's browser and the seller's server. According to the publicity brochure issued by W3C (June 2000):

“The Platform for Privacy Preferences Project (P3P) will give a computer a way of describing its owner's privacy preferences and demands, and give servers a way of describing their privacy policies, all done so that the machines can understand each other and negotiate any differences without a person at either end getting involved.”

The dialogue between servers consists of a straightforward question/answer interaction - covering questions related to data (who is collecting the data? what data is collected? why? which information is shared, and with whom?), and to the site's privacy policies. The programme as it is envisaged can meet both private needs (the user), and public needs (institutions and governments):

“a user's browser ... can check a Web site's privacy policy and inform the user of that site's information practices. The browser could then automatically compare the statement to the privacy preferences of the user, self-regulatory guidelines, or a variety of legal standards from around the world.”

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Although this solution goes a long way towards addressing privacy concerns, W3C acknowledge that this is not the ultimate answer to privacy issues, which are complex and will need a combination of “technology, a legal framework and self-regulatory practices”. Discussions and testing of P3P are ongoing (see: <http://www.W3.org/2000>).

#### **4.7.2 Security**

Privacy and security are closely linked issues. The previous section discussed a technological solution in relation to personal data. In this section we look at a technology which is to do more with content and carriage. Computer security is not a new issue, the use of passwords to access networks and stand-alone machines have been part of the computing environment for many years. The Internet, based as it is on the idea of an open network, has presented problems which passwords alone cannot answer. The network has proved extremely vulnerable to unauthorised intrusion (by persons and viruses). The use of firewalls by organisations has gone some way to protect company interests, but this does not resolve Internet issues, which explicitly entails content being passed between servers out of the intranet domain.

The answer to this problem appears to be encryption, i.e. using a cyphering system to encode messages, a system moreover which is eminently suitable to computer technology. Strong encryption (essentially impossible to decipher without a decoding key) is naturally favoured by governments and the military. They are not, however, favourable to its use by others. (In fact, the United States banned the export of encryption technology for a number of years, and even now export is restricted (Spinello 2000: 140)).

In a paper presented as part of the IFIP SIG9.2.2 rolling workshop and round table series on Internet Governance, Joseph Kizza (1999: 34) stresses the importance of encryption to the future development of the Internet:

“Internet commerce, or ecommerce, has been the fastest growing component of the Internet. This growth, and indeed the growth of the entire Internet, will depend on the security of sensitive information while on the Internet, hence on cryptography”

Encryption, however, is a two-edged sword. High level coding, which ensures the total protection of content sent over the Internet, is of intense concern to governments and law enforcement agencies who have traditionally been able to intercept communications. The ethical issues this technology has raised are discussed in Section 4.8.2.

#### **4.7.3. Content selection**

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Attempts have been made to address the grave concerns expressed following the widespread interest in the pornography issue in 1995. Following the, by now, infamous allegations by undergraduate Marty Rimm regarding the massive scale of pornography available on the Internet (published in *Time*, 3rd July 1995), urgent efforts were put into producing technological controls to pre-empt government legislation and censorship. As it turned out the report by Rimm was subsequently severely criticised for its suspect research methods (Li 2000). However, this is not to deny the enormity of the problem, both in terms of the availability of pornographic material on the Internet, and the human abuse which underpins this industry.

The World Wide Web Consortium played a leading role in tackling the pornography problem by creating PICS (Platform for Internet Content Selection) technology. Tim Berners-Lee (1999: 113) describes it thus:

“The idea was to create a simple program that could be installed on or in any browser and would let parents block the display of sites that carried a certain rating”.

The role of the consortium was to define the languages for defining the ratings. A number of filtering and blocking systems are now available to users, and conventionally incorporated in browsers. The policy behind this solution was to avoid heavy-handed legislation and put control in the hands of users - thus maintaining the decentralised and “free” (in the sense of unregulated) character of the Internet. Spinello (2000: 1) notes the success of technology over traditional legal means as a controlling mechanism:

“Although the control of technology through law and regulation has often been a futile effort, “correcting” technology with other technology has been far more effective. The regime of law has had a hard time suppressing the dissemination of pornography on the Internet, but blocking software systems that filter out indecent material have been much more successful.”

Spinello (2000: 1)

## **4.8 Ethical outcomes**

### **4.8.1 Privacy**

The World Wide Web consortium's answer to one aspect of the privacy issue, P3P, is still at an early stage of development. It may prove to be the case that this technology in itself does not generate other ethical issues. Values included in the design are reflected in the questions put forward by P3P to web sites, and the acceptability or otherwise of the answers it receives. Potential ethical problems could be ameliorated by ensuring a “customisation” option for the user (so they can choose which question they consider

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important), and by ensuring that the user is fully aware of what P3P is and how it works (following an ethical position of “informed consent”). Needless to say, the user-interface needs to be clearly laid out and easily understood. Ethical problems that could be envisaged would be if P3P is shipped out and “hidden” in browser software, with default settings which are beneficial to certain organisations, states, or cultures.

A broader issue is that with the introduction of technical regulation (as this type of programme is), these matters may be perceived as having been fully dealt with and thus put aside, rather than looking at the deeper issues of data gathering (such as, is it *really* necessary?<sup>4</sup>). In other words, users may become complacent about privacy issues, thinking their computer “will deal with it”. Additionally, as “ethical” programmes are developed, more moral responsibility is accrued by their creators. Is the profession ready, and willing, to accept this responsibility?

#### **4.8.2 Security - the encryption debate**

Whilst encryption does seem to provide the answer to security issues, it has been the focus of an enormous amount of publicity, firstly due to its classification by the United States as “munitions” and thus subject to export restrictions, but more recently as part of the Regulation of Investigatory Powers Bill (RIP) in the United Kingdom. Chris Zielinski discusses “The Ethics of Encryption” (1998) drawing attention to the tensions between the “private citizen's assumed right to make use of powerful encryption ... as an enabler of individual freedoms” and the “existence and deployment of encryption for the purposes of ensuring State secrecy.” The debate in the UK centres on the policing aspect of suspected criminal activity; law enforcement agencies holding that they should be able to “read” documents of a criminal (or potentially criminal) nature, in the same way they have been traditionally able to intercept post and carry out phone tapping. In order for the government to be able to decipher communications they must have access to the (digital) key which can unlock the code. Most of the controversy regarding the RIP Bill centres on how governments can have access to such a key. One way is to keep keys with a “trusted third party” (TTP). However, two arguments have been given against the practicalities of this idea. One is that criminals are unlikely to lodge spare keys with TTP's (which would probably mean that lodging keys becomes mandatory), and the second is that a database of secure keys is a highly attractive, and vulnerable, target for criminals - offering extremely rich rewards. Penalties for withholding keys is a two year prison sentence. It has been pointed out that receivers of unsolicited coded messages will not have a key, the contentious point is that the burden of proof is on the individual to prove they are innocent

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<sup>4</sup> See for example “Personal Data: Issues of Ethics and Regulation”, this author's contribution to the CCSR seminar series “Social Responsibility in the Information Age”, included in Appendix C.

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(i.e. have no knowledge of a key, or have honestly lost it). Naturally, civil rights organisations are enormously concerned about this bill. (On 8 March 2001, The Foundation for Information Policy Research web site “Regulation of Investigatory Powers Information Centre” listed almost 1,000 media headlines regarding this topic. <http://www.fipr.org/>.)

#### 4.8.3 Content selection (PICS)

The idea behind PICS was to give users control over censorship - particularly with regard to pornographic material. Commonly voiced concerns were that children using the Internet were exposed to “unsuitable” content. PICS technology was designed to enable parents to exercise control over the content their children could, either intentionally or inadvertently, have access to.

However the introduction of PICS has raised more ethical questions. Berleur, d'Udekem-Gevers and Rolin (1999: 40) summarise the contribution of PICS to content management:

“PICS standards facilitate *“self rating* (enable content providers to voluntarily label the content they create and distribute) *and third party rating* (enable multiple, independent labeling services to associate additional labels with content created and distributed by others.”

Their critique of filtering and blocking software notes six roles implied by filtering software (according to Resnick 1998):

1. Set labeling vocabulary and criteria for assigning labels
2. Assign labels
3. Distribute labels
4. Write filtering software
5. Set filtering criteria
6. Install/run filtering software

Of these six roles, the above authors point out that (1), (2) and (5) imply moral judgements. The article gives a comprehensive analysis of the many ethical aspects involved in such systems, but to give some examples; they ask “who is in charge of setting labelling vocabulary, assigning labels and setting filtering criteria?” Where third party rating organisations are concerned questions of reliability and trustworthiness are raised. If “self-rating”, (e.g. parents customising their own software) are the rating labels well defined and in accordance with users value judgements?

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These are not idle, or trivial, questions. Setting labelling vocabulary and filtering criteria involve value judgements which are likely to be heavily influenced by cultural preferences - even within one national culture people have different priorities concerning what is likely to cause offence. Filtering and blocking software can also be used to commercial advantage, for example Internet Service Providers (ISP's), or browser applications, could filter or block access to competitor's web pages. Discussion of these (and other) questions took place at the IFIP (International Federation for Information Processing) Fifth World Conference HCC-5 (Human Choice and Computers) and are summarised in Duquenoy and Whitehouse (1999) (in Appendix A:1).

Similar questions were raised in Thimbleby, Duquenoy and Beale (1998: 736, Appendix B:1), a paper summarising two high-level colloquia held in the United Kingdom. Additionally, the point was made that children's technical expertise is often higher than their parents, and "technically advanced children ... may well share successful methods with other children [to overcome technical regulatory systems]". This comment was also made in a report of the Economic and Social Committee of the European Commission (COM(97)582 final), in response to a Community Action Plan on promoting safe use of the Internet. The Committee also say they are "not convinced that the technological solution proposed by the Commission [PICS] is the most effective way of tackling a social problem."

## 4.9 Conclusions

The aims of this chapter were, in the first instance, to note the influence terminology has on ethical design; secondly to emphasise the importance of the role played by computer professionals (particularly designers) to Internet ethics - and underlying that to emphasise the need for ethical awareness in design; and finally to clearly show that solving ethical problems with technology is only part of the answer.

Section 4.2 introduced the idea that purely technical descriptions can mask the ethical implications of technology, thus furthering the belief that technology is morally neutral. It has been argued that the implications of such a view are serious in that designers, in particular, are relieved of any burden of moral responsibility.

The preceding overview of technological causes, and solutions to ethical concerns, shows that as endeavours are made to overcome these problems further issues can, and do, emerge.

In support of the counter-claim - that designers and others in the computing profession do have a moral responsibility - this chapter has shown how technology, far from being morally



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neutral, carries with it the values of designers. Tim Berners-Lee and the development of the World Wide Web is a good example. The driving value for the Web was openness and decentralisation. These values have been incorporated into the World Wide Web, so much so that they are commonly classed as its defining characteristics. His influence on the future of the Web continues through his involvement with W3C, the organisation which sets technical standards for its future development.

The “enabling” and “constraining” aspects of technology are acknowledged by Tim Berners Lee, and are the subject of Lawrence Lessig's (1999) book. Lessig comments: “Technologies can undermine norms and laws; they can also support them”. It is also possible that a preference for technical controls may replace legal controls (Berleur, d'Udekem-Gevers and Rolin 1999: 53). The trend towards self-regulation, advocated by international organisations and western governments, includes the implementation of the types of technical controls discussed in this chapter. Although the intentions behind the self-regulation initiative are given as empowering individual users, the shift from legal controls to technical controls may have the opposite effect. If we accept that in democratic countries the legal system is an expression of the will of the populace (i.e. devised by elected representatives of the people), the users have some influence on the controls that are put in place. If, however, technical controls become the favoured means of regulation, users' interests are in the hands of designers and corporate policies.

It is important therefore for technologists and computing professionals to be aware of the connection between ethics and design. Whilst it might be argued that computer professionals at the cutting edge of innovation and development are “busy doing the job” and “haven't got time to think of ethics”, a concluding remark of the report on the series of rolling workshops and round table at the HCC5 conference in Geneva (Berleur, Duquenoy and Whitehouse, 1999: 26) points out:

“The discussion served as a reminder that computer scientists' involvement with information technology, and specifically with the Internet, brings certain professional responsibilities.”

This chapter clearly illustrates the impact of technological design in matters of ethics - demonstrated by the discussions regarding PICS, PGP and encryption (sections 4.7 and 4.8). Not only is technology specifically developed to combat ethical problems such as content regulation, privacy and security - thereby admitting to an ethical connection - but also the introduction of these “remedial” technologies have a further impact in raising other ethical problems.

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In recognition of a need for promoting the case for "ethical design", the paper "Justice and Design" (Duquenoy and Thimbleby, 1999: in Appendix B:2) suggests how principles of fairness could be incorporated into a design framework, and compared the principles of Rawls' social contract with well established HCI design principles. In that paper this author suggested that:

"The hypothetical model of a social contract brings an explicit ethical focus into our working world ... We believe that the notions, arguments and concepts presented by Rawls can be applied to the area of design, and that the resultant outcome is as beneficial to the "user society" as Rawls implies it would be to the "political society."

(Duquenoy and Thimbleby 1999)

If ethics is important in our world, then raising the profile of ethics and its relationship with technology is equally important - given the dominant role technology plays in our lives. By promoting ethical discussion, via the conference route, and through the publication of the above paper in the proceedings of Interact'99, this author has contributed to this enterprise by explicitly introducing the subject of ethics and moral responsibility to computing professionals in the academic and research community.

Technological approaches to resolving ethical concerns can be helpful, and may be improved with some prior ethical thought. However, it should be remembered that fixing technology with more technology is not the only angle of approach - people are complex and computers are complex. A combined strategy is likely to optimise ethical outcomes.

## Chapter 5

### The impact of concepts on ethical thinking and behaviour

*“Every human tool relies upon, and reifies, some underlying conception of the activity that it is designed to support.”*

(Suchman 1987)

*“In general, our conceptions of computer technology will affect our policies for using it.”*

(Moor 1985)

#### 5.1 Introduction

The previous chapter began by illustrating how a definition of the Internet in purely technological terms can factor out ethical considerations. This chapter takes the idea of ethical influences further, by claiming that analogies (and other descriptive devices) are similarly influential on ethical thinking. These explanatory strategies play an important role when faced with unfamiliar situations - choosing those that attend to the ethical dimension is important if we want to encourage an ethical environment.

In attempting to understand some of the complex ethical challenges of the Internet (one of the aims of this research) this chapter investigates the contribution of pre-conceptions to the “ethical muddle”. This work<sup>5</sup> was inspired by James Moor's (1985) references to “conceptual muddles” and Walter Maner's (1996: 152) claim that:

“The failure to find satisfactory non-computer analogies testifies to the uniqueness of these issues. The lack of an adequate analogy, in turn, has interesting moral consequences. Normally, when we confront unfamiliar ethical problems, we use analogies to build conceptual bridges to similar situations we have encountered in the past. Then we try to transfer moral intuitions across the bridge, from the analog case to our current situation. Lack of an effective analogy forces us to discover new moral values, formulate new moral principles, develop new policies, and find new ways to think about the issues presented to us.”

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<sup>5</sup>The work presented in this Chapter is a development of ideas originally appearing in a paper “Internet Ethics: changing concepts, changing ethics?” (Duquenoy 2000), first presented to IFIP SIG9.2.2, Namur, January 2000, and later presented at the C@MDX conference at Middlesex University, in March 2000. The original paper is included in Appendix B.

Whilst agreeing with Maner that the use of analogies indicates we are looking at “something new”, this does not necessarily mean that the ethical issues are new. The problem may lie in the weaknesses of existing concepts. Good concepts have a good match with the way the world presents itself to us, and should be useful. Cognitive science tells us that concepts are an abstract representation of the external world, which we use to understand and explain our environment. Concepts then, like hypotheses, have explanatory power.

Does the concept we have of the Internet adequately explain the environment we have constructed? What concept do we have of the Internet? Is it a computer network, a broadcasting medium, a publishing medium, or a communications medium?

The Internet has a broad range of functions and concepts may vary according to which function is being used. For some purposes the concepts used may be sufficient for the user. For some groups the general concept of the Internet as an interactive communications medium, or as an information source, is possibly quite adequate, as for example those users who simply want to email a friend or colleague, or search the World Wide Web for some piece of information. This description fits the course of events as they occur whilst “communicating” or “surfing”. For other groups, technologists for example, the Internet is more likely to be represented as an interactive computer network, with the emphasis on physical connections and programming codes etc., and what they perceive it “as” explains how it behaves. That is, for this group there is a good correspondence between what it *is* and what it *does*.

However, there are levels at which these concepts do not appear to be adequate; ethics is one of them. Marcus Peschl (1999: 208) describes the goal of concepts as providing us with:

“relevant information and representations for *generating adequate behavior, making reasonable decisions*, etc.” (my italics)

From an ethical standpoint, if we ask the question “Does our concept of the Internet provide us with relevant information and representations for generating adequate behaviour and making reasonable decisions?” the answer seems to be “no”. In an ethical sense is our concept of the Internet “*useful*?” Apparently not.

This chapter argues that the familiar points of reference used to explain and understand the Internet can, in many cases, distort ethical thinking and influence the ethical debate. For example, the analogy between post (“snail mail”) and email ignores important differences,

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such as confidentiality. Deborah Johnson (1999) notes that “different conceptualizations compete for use” and, “the privacy conditions we come to think appropriate for email depend on which way we categorize and conceptualize it”.

The example of email, and others, will be used to support the claims that the terms we use to describe the Internet, and the inferences we make, provide a conceptual frame of reference. In some cases the concepts are crucially lacking, and confusing in an ethical sense when transferred to the Internet context. The following sections show that these descriptive devices very often omit certain aspects of the Internet which can be crucial in the transfer of off-line ethics to the Internet context. In other words, our approaches to ethical reasoning are very often based on misconceptions about the characteristics of the Internet.

The perspective of this chapter is a cognitive one, and thus draws to some extent from the field of cognitive science. The underlying theme throughout the chapter is of conceptual frameworks, and the extent to which they correspond to the Internet environment - in this respect insights from research in Human Computer Interaction (HCI) can prove useful.

## 5.2 The role of concepts in setting a context

Concepts play a vital role in recognising and understanding the external world, an importance which is attested to by the breadth and depth of discussion given to the subject within the disciplines of philosophy and cognitive science. Acquiring a relevant concept may involve readjusting previous ideas: The Oxford Companion to Philosophy (1995: 146) tells us it is possible to “apply or ... misapply a concept, to extend it to new cases, to abandon it in favour of an alternative concept ...”

The impact of concepts and other explanatory strategies to ways of thinking and understanding is well understood within academia. For example, Norbert Kubilus (2000: 24), writing on the subject of usability states:

“Cognitive psychologists such as Don Norman [*The Design of Everyday Things*, Doubleday, New York, 1994] tell us that the human mind processes new information based on observations and inferences - that is, the person forms a conceptual or mental model [which is the basis for user expectations].”

The Internet is relatively new, and when people try to explain new things it is often necessary to refer to other, familiar, occurrences to gain some mutual point of reference. How we think and speak about the Internet sets a context, which influences expectations

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regarding behaviour (what we are able to do, what we will be able to do) and the judgements we make.

The terms concept, metaphor, analogy and model are all used in some way to describe a mental framework - the latter three are often used interchangeably. However, it is important to note at least one distinction between these terms (as used in the current discussion): metaphors, analogies and models *lead to* the formation of a certain concept. That is, concepts, as they are discussed in this chapter are the *outcome* of information given by metaphors etc.

### 5.3 The contribution of metaphors, analogies and models to forming concepts

When we are faced with a new entity, as we are with the Internet, how do we begin to understand it? How do we explain it to others? What words do we use? What examples do we give?

Over the last few years the Internet, and features of the Internet, have been described in a number of different ways in an effort to aid comprehension of what is, after all, an entirely new idea. Some of the more extensively used explanatory strategies are metaphors, analogies and models. The aim of using such explanatory devices is to provide a conceptual framework of what the Internet *is*, and how it relates to existing structures in society. Naturally these explanatory devices have a powerful impact on setting a context, or “schema”, which in turn impacts on ways of thinking and acting. Each of these terms, whilst performing similar functions, have different points of reference, described below.

- *Metaphors* are similar to concepts in that they evoke a mental picture, but different in their application. Metaphors are used to help build a concept by offering a familiar term which has properties that are similar to the new idea. Their importance in setting a context is noted by Steven Rose (*THES* 18 May 2001) in a recent review of *Metaphors of Memory: A History of Ideas About the Mind* (Douwe Draaisma 2001):

“metaphors are powerful and sometimes dangerous, they can help science advance but they also shape our thinking in ways that can be unhelpful. Selfish genes and brains as telephone exchanges may fall into this last category.”

Hugh Petrie (1979: 441) supports the importance of metaphors in providing a bridge between the known and unknown:

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“I believe an examination of metaphor will show that it does, on occasion, play this crucial epistemic role of rendering the acquisition of radically new knowledge intelligible. Analogies, models and exemplary problem solutions also sometimes perform this function and, I think, in very similar ways to metaphor.”

Petrie (1979: 439) also warns that: “metaphors can be tremendously misleading”.

- *Analogies*, as the previous quotation suggests, are also used extensively in learning to give a familiar frame of reference to the, as yet, unknown subject. By showing similarities between the known and the unfamiliar a picture of the new phenomenon can gradually be built. Margaret Boden (1987) tells us:

“analogy enables one not merely to gather new factual knowledge about the novel phenomenon, but correlatively to *understand* or *explain* it, by relating it to the concepts already accessible in the familiar frame.”

- *Models* play a similar representational role although they usually refer to systems:

“Models are analogies ... Scientific or engineering models are representations, or likenesses, of certain aspects of complex events, structures or systems, made by using symbols or objects which in some way resemble the thing being modelled”.

(Chapanis 1961, cited in Wærn 1989: 96)

The above descriptions, as well as illustrating the cross-referencing which occurs between these terms and the important role they play in extending understanding, also substantiate the claim at the heart of this chapter - that these devices exert a powerful influence on ways of thinking. Such strategies can be extremely useful in developing knowledge, as we have seen, by bridging gaps between the familiar and unfamiliar. The degree to which they are useful as explanations, however, is directly related to the resemblance between the example and the new reality. In all cases misrepresentation can occur, causing problems to a greater or lesser degree depending on the particular role of the explanation.

“We must remember that models are similar to, but not the same as reality. Some disparity will always remain between the model and the reality modelled. The difference may be less serious as regards some part of reality and more serious as regards other (sic) ... if a model does not fit a particular section of reality, the person will perceive a conflict. Conceptual conflict of this kind triggers conceptual activity ... This is one of the chief ways in which science proceeds.”

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(Wærn 1989: 101)

## 5.4 Ethical reverberations

In his book *Cyborgs@Cyberspace*, David Hakken (1999) gives an anthropologist's perspective on the particular difficulties of conducting a critical analysis of cyberspace. He locates his discussion around the premise that society is in the midst of a “Computer Revolution” (CR). Early in the book he comments on the influential nature of ways of speaking to ways of thinking:

“In an important sense, computing is a central myth or story of our times; that is, narratives about AIT [Advanced Information Technology] and what it implies for human life and society are central elements of the way those “colonizing” cyberspace think about the things important to them.”

(Ibid. 14)

One of many questions he raises is “What dangers follow the acting on inappropriate or doubtful understandings of cyberspace?” (Ibid.: 2). He sets out the theme of the chapter which “analyzes the ways *this talk hampers thinking* about cyberspace, such as its *speculativeness and its simplistic and distorting assumptions* about AIT” (my italics).

Not only does this type of rhetoric lead to “simplistic and distorting assumptions”, it actively promotes “mythinformation” (using Langdon Winner's (1984) terminology):

“The cultural site of CR Thought's most vigorous performances is advertising, a practice whose rhetorics, detached from the normal mechanisms by which people make sense of their world, are contemptuous of validity standards. While CR-related advertising taps into strong currents of desire and imagination, its imaginings promote “mythinformation” (Winner 1984) and discourage reflective thinking.”

(Ibid.:18)

On a similar theme, but with the application of law in mind, Mawhood and Tysver (2000: 96) pick up on the role of language: “New technology leads to new words, some of which can mislead us. In particular with the Internet is the notion of *cyberspace*.” They go on to remind us that “cyberspace is not a real place”, and that people and their activities are still governed by laws.

Having an accurate account, or accurate representation, of a state of affairs is fundamentally important to sound ethical reasoning. In the absence of knowing, others will make decisions on our behalf. Computer software is a case in point:



“Policy makers, in a sense, *made* computer software what it is by deciding how to treat it legally. Deciding that copyright applied, defined software. Later deciding that patent law applied to certain types of software also defined it”.

(Johnson 1999: 4)

This chapter has so far introduced different forms of mental representations, and the role they play in “getting to grips” with new phenomena. It has shown that the purpose of these strategies is to inform, but that they can also “mis-inform”. The following sections illustrate, with examples, the potential effects of misconceptions on ethical thinking and behaviour. The examples begin with the concept of “cyberspace” which generates the impression of an environment within which Internet activities happen. The discussion then moves on to more particular instances of metaphors, models and analogies and their usefulness in providing a conceptual framework for ethical thinking.

#### **5.4.1 The concept of Cyberspace**

The term “Cyberspace” is extensively used when referring to the Internet, and conjures up a concept of some non-physical area, inhabited for instance, by “cyborgs” (cf. David Hakken, *Cyborgs@Cyberspace*, 2000), or “cybercitizens”. This description evokes an image of some separate place (separate that is to the “real world” we inhabit) and indeed many writings about the Internet are littered with the expression “real world” when making a distinction with events, or behaviour, on the Internet. References to a “new frontier land” (Barlow 1994), contribute to this notion of a separate place, as does Kevin Kelly's “disembodied cyberspace where messages interact” (Kelly 1996: 76).

The consequences of a separate “world” concept can be problematic from an ethical standpoint. There is an implication that the same social rules do not necessarily apply in Cyberspace. For example, Wendy Grossman talks about trying to “define the rules in the grey area where real life and cyberspace intersect.” (Grossman, 1997 *Net.Wars*, Introduction). Further implications of different rules for cyberspace can be inferred from the organisation “Cyber-rights and Cyber-citizens” (<http://www.cyber-rights.org/>).

James Moor (1999: 7) points to the behavioural consequences of this type of rhetoric:

“This semantic flexibility that is so useful for simulations, may mislead some into thinking that computer processes are always mere simulations or unreal in some way... A promise sent over e-mail is a real promise. One cannot get out of the promise by claiming that it was only a virtual promise and not a real one. Similarly spending cybermoney to buy merchandise is really spending money.”

“When cyberactivity is regarded as unreal or disconnected from the real world, then norms may not seem to apply and responsibility may lose its grip.”

In other words, we may become “disconnected” (paradoxically) and thereby alienated from personal responsibility and socially responsible behaviour (see for example, Turkle 1996). In the “off-line” world sanctions (i.e. laws) play a major part in directing behaviour, but as Lessig (1999: 233) reminds us, presenting an image of a separate place falsely represents the interconnectedness of the “virtual” world with the “real” world:

“By speaking as I have about the code in cyberspace, by describing how government might regulate that code, by making it seem as if the worlds I am describing were in some sense elsewhere, I have obscured an obvious and critical point that the Y2K crisis makes real: code is not elsewhere, and we are not elsewhere when we feel its effects. As Andrew Shapiro puts it: “Seeing cyberspace as elsewhere ... misconstrue[s] its legal significance ...”

#### **5.4.2 The “Information Superhighway” metaphor**

The most commonly used metaphor in conjunction with the Internet is “Information Superhighway”. The original idea - promoted by United States Vice President Al Gore in 1993/4 (Barrett 1997, Beckett 2000) - aimed to capture the notion that parallels could be drawn between the government funding for the communication routes of the Internet and America's interstate highways. However, Beckett (2000: 16) also notes its limitations as an explanatory device:

“In this sense, the metaphor is true, but it provides no help in explaining the later development of the Internet, after the government withdrew its funding ... and has no relevance to how the network actually works. In other words, the concept of an information superhighway is actually very little use in explaining the current global electronic network.”

What the above quotation does show is that a metaphor can be useful to explain something at a particular level, but that does not necessarily mean it is appropriate, or even useful, at another level - for instance, in understanding ethical behaviours or consequences.

According to Ladd (1997: 10) not only is the reference to Information Superhighway “sloppy”, it is also “conceptually incongruous” and “dangerously misleading”. Ladd goes on to say that the Information Superhighway is far from “toll-free”, and unlike the free choice

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we have in what car we drive, how we use the Internet is directed by Bill Gates and Microsoft.

However, be that as it may, this metaphor does capture the idea of the movement and flow of information, travelling from one place to another - which may account for its general acceptance. The “highway” notion has also been taken up in a European initiative - the “European Computer Driving Licence” (ECDL) - a training programme of computer competency available to all ([www.ecdl.co.uk](http://www.ecdl.co.uk)). Parallels with the driving licence idea run through the course details, using such terms as “log books” and “test centres”. This initiative serves to illustrate the impact of metaphors, and how important it is to make sure they are appropriate. We can see that ideas which capture the imagination are built on, and have offshoots in unexpected ways. Interestingly, there is no mention of ethics, or social responsibility, in the ECDL syllabus (although there are references to security and privacy issues).

#### **5.4.3 The “snail mail” analogy**

It may have been helpful in the early days of email to liken it to the more familiar postal service, explaining that the message is split up and sent in different packets, by different routes, to the same address and re-assembled upon arrival. This is functionally true (although very much simplified). What this explanation leaves out, however, is a crucial factor as far as the ethics of the situation is concerned - that is, the integrity of the system to carry the message safely and privately to the delivery address. Trust in the postal service is generally taken for granted, and the procedures which have been put in place over time are on the whole not thought about when we use the service. It is an offence, in the United Kingdom at least, to “interfere” with The Royal Mail. From the time the package leaves the sender to the time it arrives at the addressee it should not be opened, and in most cases it is not. There is a cultural respect (supported by legislation) for a sealed postal packet. As Neil Barrett (1997: 40) says: “A sealed envelope marked 'private and confidential, addressee only' is usually treated as sacrosanct”. This is not the case with email.

Similarly, the term “junk email”, although grasping the essence of “junk mail” in its nuisance value, differs in important ways from the junk mail which arrives through the letter box. The burden of cost has shifted from the sender (in the case of postal mail) directly to the recipient, either in financial terms (which may vary according to individual arrangements for Internet access), or in terms of personal time taken in downloading, reading and sorting. (Junk “post” is more easily recognised, takes less time to sort and dispose of.) The decrease in cost to the sender has resulted in an increase of junk email, which is not only a nuisance to those receiving these messages, it takes up bandwidth and can cause havoc to servers. Taken to extreme, large quantities of “junk email” can be sent in a deliberate

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attempt to cause disruption - as in the case of virus attacks resulting in “denial of service” by Internet Service Providers (e.g. Electronic Telegraph, Issue 1721, 10 February 2000). Junk email also raises questions about privacy - to send an email requires an email address which is “individual specific”, whereas mail through the door can simply be addressed to “the occupier”. There is, it seems, a greater ethical problem with junk email than with “post”.<sup>6</sup>

The introduction by the UK government of the Regulation of Investigatory Powers (RIP) bill during 1999, highlighted some important differences between the postal system and email. The aim of this Bill is to allow law enforcement officers the power to read emails. They argue that just as they have the power in certain circumstances to intercept mail (in cases of suspected criminal or treasonable activity) they should similarly have this power in the case of digital communications. However, whereas in the postal system they can intercept mail, in the digital system the correspondence is more analogous to the telephony model - in which case it is not interception but rather “phone tapping” which is occurring. In the final analysis it may prove to be unimportant to the debate which process (“interception” or “eavesdropping”) is the right one to use. Alternatively, it may prove crucial in an ethical sense. The words “interception” and “eavesdropping” are carried over from previous contexts, and infer different things. It is important to be sure exactly what is under discussion. Deborah Johnson (1999) observes:

“We have to clarify what is involved in the activity in order to know what norms are appropriate. Needless to say, how we understand the activity makes all the difference in our evaluation of it.”

If we are using analogy to understand and explain something, it is important to i) choose appropriately, and ii) be clear about the extent of the correspondence, i.e. what aspects of the analogous situation match the current one, and in what respects the analogy differs. In the case of email, Barrett (1997: 39) suggests a better analogy would be the “post-it” note, which is spontaneous, informal, intrudes into the working space (and demands swift attention), and which is also visible to others (i.e. not considered private). It is interesting to consider whether, if this analogy had been taken up and accepted as an example of what email was all about, whether the ethical concerns of privacy and intrusion would have arisen.

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<sup>6</sup>The nuisance aspect of junk email has now been acknowledged and legal steps have been taken which restrict the sending of junk e-mail (see <http://www.dataprotection.gov.uk/>).

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“Is sending an email message more like sending a postcard than having a phone conversation or sending a letter? *The privacy conditions we come to think appropriate for email depend on which way we categorize and conceptualize it*” (my italics).

(Johnson 1999)

This section has suggested that analogies can be helpful in giving the “essence” of something new, but notes that care should be taken with how much of the analogy is appropriate. Re-introducing ethical properties (such as trust or privacy) to analogies and similar devices may reconcile some of the differences, and problems which result from inappropriate expectations.

#### 5.4.4 Transferring models

Models are used to describe systems. Examples of models which have been used to describe the Internet are: the broadcasting model which describes the transmission of aural and visual output to the public domain (television and radio), the publishing model which describes the system of printed output to the public domain (books and other publications), and the telecommunications model (describing person to person communication). The Internet is said to depict the convergence of these three models.

Although broadly speaking these three models (broadcasting, publishing, and telecommunications) are applicable to the Internet, there have been difficulties in transferring the regulatory aspects of these models to the Internet context. The models represent industry sectors which have evolved over a period of time, along with control mechanisms to protect the public. The regulations which have been put in place were developed within, and appropriate to, a particular context. In other words, the environment within which these sectors operate had a direct bearing on the form of the regulation, and means of enforcement.

The environment of the Internet is, from a regulatory point of view, very different from the environment within which these sectors evolved. Therefore, whilst the principles behind the broadcasting, publishing and telecommunications models apply to the Internet (i.e. transmission, printed output and person-to-person communication), the regulatory mechanisms do not. The lack of regulation, and the difficulties in applying the right sort of regulation, has become part of the ethical debate of the Internet. Particular issues which arise in this respect are:

- Easy access to “harmful or offensive” material (by children in particular)
- Intellectual property issues (copyright, trademarks), libel
- Interception and eavesdropping

The following examples take the three sectors in turn, and show how the above issues have been addressed in their original environment.

In the case of broadcasting, regulatory bodies exercise a certain amount of censorship, not only in respect of content, but also regarding the appropriate time for the broadcast. In the UK there is a 9 o'clock watershed. Programmes considered unsuitable for children are broadcast after that time. The assumption is that children will be in bed after 9 o'clock. Even if this is not the case, parents are aware that programmes after that time may be inappropriate for their children and they can make their own decisions whether they want their children to watch or not.

Similarly with publishing. Some governments exercise censorship (particularly with regard to pornography), and measures are taken to prevent children from accessing “unsuitable” material (whatever “unsuitable” may mean to different nations). To give a UK example once again, “adult” magazines are usually displayed on a high shelf in stores, out of reach of young children. Other aspects of publishing where regulation provides protection are in the areas of copyright (protection for the author or publisher), and libel (protection for individuals). In both of these areas the Internet is causing problems, not because society does not understand what copyright and libel are, but because transferring existing regulatory measures is practically difficult.

The difficulties with the telecommunications model have been discussed above (5.4.4) in connection with the RIP Bill. Whereas “phone-tapping” and “eavesdropping” by law enforcement agencies are currently allowed, applications have to be made and permission has to be sought before this can be done. An argument was made in the public discussion forum “Scrambling for Safety”<sup>7</sup> that because the practicalities of “eavesdropping” by law enforcement and government agencies is easier on the Internet, technically speaking, than previous telecommunications methods, there would be a higher incidence of its use - which would not necessarily be in the public interest (see for example, the report on interception capabilities by Duncan Campbell, 2000).

## 5.5 Conclusions

These formative years of the Internet have produced a number of descriptions of its various aspects, each trying to grasp some essence of what the Internet means, both in itself and the functions it performs. This chapter has endeavoured to show that whilst some of these descriptions might get part, or even most, of the message across, they can also be

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<sup>7</sup> <http://www.cl.cam.ac.uk/~rja14/sfs98.html>

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misleading in what they leave out. Analogies, metaphors and models may describe certain parts of the systems (for example written communications, or data flow) but, by definition, they do not capture the whole picture. Camp and Chien (2000: 18-19) in an essay that argues for a spatial metaphor rather than a “media” metaphor, state:

“If a metaphor is to be used to describe the Internet, it must be a metaphor as rich as the Internet itself. Yet no metaphor will have the same set of boundaries as the Internet or the same issues ... Spatial models offer a subtlety and complexity that are lacking in media models.”

The point of this chapter is not to infer that these descriptive devices could, or should, provide a thorough representation, but rather to show that what is left out of the description may be relevant to the way we visualise the ethical environment of the Internet. For example, it has been suggested that to incorporate some idea of the boundaries of privacy with regard to email; post-it notes, or postcards would be a more appropriate analogy.

Taking Walter Maner's (1996) position on the “uniqueness” claim as a starting point, this chapter has attempted to show that difficulties with finding adequate analogies for computer-ethical issues does not necessarily imply a revision of moral standards or values. By showing where the divergences occur between the explanatory devices (metaphors, analogies and models) and the new phenomena to be explained - the Internet, this author has suggested that “ill-fitting” concepts are part of the problem. The following quotation, which pertains to HCI issues, illustrates the importance of the correspondence between a user's conceptual model and what *actually* happens:

“successful e-commerce web site development depends on achieving congruence between the user's conceptual model of the web site itself and how the web site delivers information”

(Kubilus: 2000)

The difficulties we have had in coming to terms with the Internet in an ethical way, from the viewpoint presented here, can be described as symptoms of a transference between what may be called an analogue view of the world and a digital perspective - resulting in tension and conflict at the “edge” of change, as described by Mark Stefik (2000). In bringing out the misleading character of the terms we use, this author has presented an alternative viewpoint which places some of the difficulties of Internet ethics at the door of human misperceptions rather than inadequate, or outdated, ethical theory (as suggested by Maner 1996).

## Chapter 6

### Regulation of the Internet

*“What is most wonderful about the Internet, its free-wheeling spirit of democracy and innovation, is also the source of one of its potentially fatal flaws. The Internet is a co-operative commonwealth. There are no police and no punishments.”*

(Miller 1996: 52)

#### 6.1 Introduction

The previous two chapters have shown influences on ethical thinking and reasoning in the Internet context, and have shown, with examples, that some of the problems in the Internet debate are technology based, or conceptually based. This chapter continues the theme of ethical influences by emphasising the role of regulation in establishing an ethical context.

The topic of regulation relates to ethics in that it concerns behaviour - legislation and codes of conduct not only set standards for behaviour, they attempt to control behaviour through sanctions. According to David Pullinger (2001: 3):

“Ethics are the principles of behaviour which underlie the decisions and behaviour that create good and fair societies in which all human beings flourish.”

The above description can be useful to illustrate the link between ethics and regulation, that is:

- ethics as principles *of* behaviour ...
- regulation as recognising and establishing principles *for* behaviour

Thus regulation has an ethical influence in setting out the values of a community, and in applying sanctions regulation could be described as a tool for ethics. The problems which this chapter addresses relate to both aspects, setting values and providing a tool for ethics.

Regulation contributes to the confusions of Internet ethics in at least two important ways: one is the question of *whether* the Internet should be regulated at all, and the other is *how* it can, or should, be regulated. This latter consideration refers to the practicalities of applying legal measures to a digital domain, and the cross-cultural difficulties of meeting national and international needs.



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These two questions have formed the basis of discussion for many of the meetings attended by the author during the research period. The first was the IFIP SIG9.2.2 rolling workshop and round table initiative at the IFIP-TC9 HCC-5 (Human Choice and Computers) International Conference in August 1998. The role of the author during the three days of the conference was to act as rapporteur, summarising the discussions of each round table before the next one took place, and gathering topics for further discussion from the participants between the events. After the conference the author produced a written report of the proceedings, and the ethical questions raised. This report has since been circulated as a monograph to IFIP members (such as the British Computer Society) as well as outside of the IFIP group (such as The European Commission General Directorate “Information Society”<sup>8</sup>), with the aim of promoting understanding and further discussion. The author was also requested to submit a paper based on the report for the Proceedings of the conference (Duquenoy and Whitehouse 2001). Both the report and the paper are reproduced in Appendix A and B respectively.

The second series of meetings the author was invited to attend, which addressed the same questions, were under the auspices of EURIM. The working party on Network Governance was formed to “seek to define regulatory/self-regulatory issues and principles ...” with a particular focus on the EU E-Commerce Directive. The contribution made by this author to the working party was a draft briefing paper which formed the basis of discussion in a full consultation meeting. The final, amended, version appears in Appendix B. The period of this work was September 1998 to November 1998.

Other public meetings attended by the author concerning these regulatory questions were:

- Debate at Oxford University - April 2000.
- “Scrambling for Safety” - a public forum concerning government regulation and encryption (September 1999, London School of Economics).

The UK government has promoted discussion during this period, issuing consultation documents and playing a part in the consultation process. The importance given by the UK government to the role of discussion and consultation between experts, from academia and industry, is indicative of an area fraught with difficulties. Even with this input from experts, and prolonged debate and discussion, the Regulation of Investigatory Powers (RIP) Bill - presumably drawn up by some of the best legal advisers to the government - has been heralded as “...so misguided as to be practically unamendable. It would be better for 'the economic wellbeing (sic) of the United Kingdom' to throw it out” (*The Sunday Times* 12 June 2000).

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<sup>8</sup> IFIP SIG9.2.2 Minutes Namur, January 2000.

The principal aim of this research has been to bring some clarity to Internet ethics. The extent of the debate on regulation is evidence of the complexity of the Internet environment, and making any headway towards unravelling the picture is clearly a challenging task. Keeping within the scope of this research, this chapter uses the perspective of regulation to draw out differences between the on-line and off-line environment.

Beginning with the influences on ethical behaviour, Section 6.2 illustrates the background feeling, or atmosphere, regarding constraints on behaviour as far as the Internet is concerned, and Section 6.3 gives the relationship between regulation and social standards. The first relates to influences on ethical thinking and the provision of an ethical environment. The idea that the Internet is unregulated, and some kind of new frontier land, was introduced in the previous chapter. This notion also has a bearing on how extensive regulation is likely to be - there is a certain amount of public pressure against regulating the Internet. Secondly, regulation sets an ethical tone by making explicit what behaviour is acceptable, and what is not.

Using regulation as a tool to help clarify the situation, Section 6.4 uses examples of recent legislation to bring out the differences between the off-line environment and the Internet. This section concentrates on the legislative moves over the past five years, which are indicative of an attempt to re-establish off-line regulation in the on-line world. Thus the difficulties and controversies raised in the process are useful in highlighting differences between the two environments. The law is useful in this respect in that the preciseness it requires forces ideas to be clarified and clearly defined.

Section 6.5 uses these examples to shed light on the “new issues, old issues” controversy. Taking the perspective of regulation is also useful in shedding light on one of the underlying claims of computer ethics - the “new issue versus old issue” debate. In the same way that looking at analogies and metaphors can help to unravel some misconceptions, looking at regulation can help in unravelling the “new issues/old issues” confusion. This particular analysis does not claim to be a definitive study of all ethical issues, nor an extensive survey of legislation. The point is simply to utilise regulation as an investigative tool - in this instance to assess the issues that are being discussed under this banner, and use the opportunity to make a start on some clarification. “Old” ethical issues can more easily be recognised, and at least may be put to one side in the “old” versus “new” debate.

## 6.2 Perceptions of Internet regulation

The Internet is perceived as being unregulated (Foresight 1998: 7). The popular perception of the Internet as a separate territory almost, certainly as promoted in the early days of the Internet, gives the impression of an anarchistic “new land”.

“The Internet comes with a natal myth of cynical anarchism, springing partly from its nature and partly from its US origins.”

(Johnston and Acquah-Gaisie 1999: 94)

This impression of an “unregulated Internet” still holds today. Two debates held in the UK (April and September 2000) passed the motion that the Internet should remain unregulated. The results of both debates were reported under the following headlines “Internet regulation ‘a threat to civil liberties’” (*The Guardian*, May 3, 2000) and “Should Big Brother control the Net?” (*Computer Weekly*, 21 September 2000). The outcomes of these two debates are interesting in that they reflect a general trend towards a light touch as far as regulation is concerned, despite grave concerns regarding security of data, privacy, etc.

The first debate, held at Oxford University, upheld the motion that “this house believes any attempt by government to police the internet is unworkable and a threat to civil liberties”. It should be noted that there was some confusion regarding the wording of the motion, the proposers claiming that the motion implied “any *extra* regulation [than that which is already in place outside of the Internet]”. The opposition put their emphasis on “*any* attempt by the government to police the Internet”. On this latter interpretation the Internet is presumed to be currently beyond the reach of law enforcement and, furthermore, any such law enforcement would constitute a threat to civil liberties - this shows an interesting distinction between the off-line and on-line environment.

The second debate was held at the Real Time Club (members of the UK ICT industry), putting forward the motion that “Control of the Internet by governments is imperative for the well being of society”. The motion was lost. This is not entirely surprising, it is unlikely that any person in a democratic country would subscribe to the idea that such a powerful communications media should be *controlled* by government.

Taking the notion of regulation in broad terms, Lawrence Lessig (1999) makes the very astute point that in fact the Internet is regulated - by programming code. That is, the technical underpinning which can either allow or constrain certain actions - a type of “invisible” regulation, at the moment decided by computer professionals, but open to influence by government (or indeed corporate) policy. However, the quote by Steven

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Miller (1996: 52) at the beginning of this chapter captures the more commonly held notion of Internet regulation by saying: “There are no police and no punishments”.

In summary, discussions centering around regulation take as their starting point an “unregulated Net”. From that point there are those who believe it should stay that way (for example, groups of “cyber-libertarians” (Winner 1997)), and those who think *some* regulation is in order (to the same extent that regulation applies to non-Internet activities). As the editorial in the *New Scientist* (8 May 1999) so aptly states:

“To say that governments and their law enforcers should stay out of cyberspace is as naive as saying they should stay out of city centres ... The Internet may be the cleverest infrastructure the world has ever known, but it is not a world apart.”

Despite the anti-regulation campaign, regulation is in place on the Internet. As well as the technical codes referred to by Lessig (1999) there are less formal codes, or agreements, in place. Organisations very often announce codes of practice, and privacy policies, and users are commonly asked to agree to terms and conditions in order to subscribe to some services. Self-regulation (or co-regulation, a term popular in recent months) is the order of the day, promoted by politicians and organisations (see Ministerial Conference, Bonn, 1997; OECD, 1998; United States Department of Commerce, 1998). IFIP SIG9.2.2 “regards the opposition between private and public regulation as something to be overcome, and recommends a deeper cooperation of both sectors in the domain of governance” (Berleur 1999:12, see Appendix A:1). A recent report from the UK government (e-commerce@its.best.uk),

“... recommends a light regulatory touch. Enough to build confidence in the new way of doing business and to protect consumers, but not so much that we stifle innovation, creativity and entrepreneurship and drive industry overseas.”

(Foreword by Prime Minister Tony Blair)

### 6.3 Provision of an ethical environment

Following the themes of the previous two chapters, which illustrated how a lack of ethical context affects ethical thinking and practice, the purpose of this chapter is to show a missing “ethical infrastructure” in the regulatory domain. This idea is similar to James Moor’s “policy vacuum” (1985), but differs in scope. An ethical infrastructure, in this thesis, consists of those elements which together provide an ethical context, or environment (including conceptual understanding). An important part of any ethical environment are standards and norms. Therefore, one way of setting an ethical context is through setting standards and establishing norms, thereby encouraging or discouraging certain behaviours. The policy

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vacuum referred to by Moor, is purely about the rule-governing aspect of influencing behaviour. When Moor originally introduced the idea of a policy vacuum in 1985 the discussion was based on computer ethics, since then, however, the Internet has driven the debate beyond policies to regulation, which Moor recognises in a more recent article:

“Policies are rules of conduct ranging from formal laws to informal, implicit guidelines for action. Policies recommend kinds of actions that are contingent upon different situations.”

(Moor 1999: 65)

That is, there has been a move from a somewhat “soft” idea of policies, to regulation which carries a much “firmer”, more concrete, connotation. Early attempts to influence behaviour can be seen in the rules of “netiquette” which were popular in the formative years of the Internet. This was probably sufficient in those times when there was a sense of community spirit, but in recent years concerns about privacy, security and other issues, together with the e-commerce incentive, have provoked a call for more formal regulation.

To place the discussion in the context of the Internet, rather than computer ethics, this chapter has loosely translated Moor's term “policy” to “regulation”. Part of our ethical infrastructure is regulation.

The claim of this thesis is that many of the difficulties of Internet ethics are due to the lack of an “ethical infrastructure”. In respect of this claim, the work of this chapter is to consider the affect on the ethical debate if the regulation which exists in the off-line world could be transferred to the on-line world. (That is, if the regulatory infrastructure which now exists off line was in place on line would there be the level of ethical debate concerning the Internet than there currently is?) Are the ethical problems simply the practical difficulties of applying (and enforcing) regulation? The following section shows how legislation over the last five years has attempted to transfer the regulatory aspect of “real-world” ethical infrastructure to the “on-line world”.

By looking at attempts to legislate we can perhaps draw some comparisons which may establish where the breakdowns occur, and if the issues are new ethical issues, or transformations of old issues.

## 6.4 Regulation and the Internet

Within the Internet context regulation (either formally as legislation, or informally as codes of conduct or guidelines) performs a number of functions. It serves as an infrastructure for the “practice of ethics”. Implicitly regulation is a formal expression of social values (Holvast

1996), and provides a platform from which ethical practices can take place. Explicitly, and in a practical sense, this author interprets regulation as a response to ethical concerns, a formal mechanism for the application of sanctions and a strategy for the development of trust. This suggestion is supported by the conclusions in the previously mentioned UK government report (e-commerce@its.best.uk), which addresses the aspect of trust. The report considers the following issues to have a direct bearing on trust:

- fear of fraud
- concerns about privacy
- anxiety about content
- doubt about legal liability
- worry about how redress can be obtained when things go wrong

The action identified by the report needed to overcome the above concerns is to:

“implement standards, supported by effective enforcement and provide appropriate education.”

(e-commerce@its.best.uk: 69)

The above implies regulation of some description, whether self regulation (setting standards and codes of conduct or practice), or legislation (effective enforcement).

## 6.5 Self regulation

The evolution of the Internet, in regulatory terms, has seen a gradual progression from user-determined regulation (for example, netiquette), to favouring self-regulation, and in recent years to attempts at more formal legislation. Self regulation has been promoted as a compromise in keeping the free spirit of the Internet, and in practical terms, allows greater flexibility when dealing with personal ethical choices (such as the censorship of pornography). EURIM, in an advisory paper on self-regulation (see Briefing No. 25, Appendix A:3) advocated self-regulation as a suitably dynamic, adaptive, fast, enforceable, responsive and economically attractive means of control. In the same paper, legislation is seen as too slow and cumbersome and recommended as a “last resort”. The speed of technological development is one of the main factors in favour of self regulation, and against legislation.

“The task force report on e-business said that the pace of technological change is one of the main difficulties in regulating the internet, and that attempts to enforce national legislation may be impractical.”

(Kevin Brown and Jean Eaglesham, *Financial Times*, Dec 15th 2000)

Self regulation has thus become the order of the day, partly in recognition of the need to develop trust, and spurred on by the threat of government intervention (Rolin 1999). Consequently, there has been a move by a number of organisations to develop codes of conduct, and make clear their terms of service. As discussed in Chapter 4 (technical aspects) privacy is a particular concern of users, and many web sites now make their privacy policies available to users.

However, work on codes of conduct appearing on the Internet currently being undertaken by IFIP SIG9.2.2 (work that this author has been involved with), shows in many cases idealised principles and a lack of sanctions. Without sanctions codes of conduct are of little value - if they are to achieve their intention, i.e. to promote trust, they need to be credible.

“These codes should meet community concerns and industry needs and operate as an accountability system that guarantees a high level of credibility and quality.”

(Bertelsmann Foundation Memorandum, p.23,  
cited by Marie d'Udekem-Gevers 2001<sup>9</sup>)

## 6.6 Legislation

A number of legislative attempts have been made to address some of the ethical concerns raised as a result of computer technology over the last five years. For example:

*Table 4: Examples of legislative attempts regarding Internet issues since 1996*

Issue	Legislation	Date
• Pornography	Communications Decency Act (CDA) (United States)  European Green Paper “Protection of Minors and Human Dignity”	1996 (but declared unconstitutional in June 1997)
• Personal data	Data Protection Act (UK)	1998 (updated from 1984)
• Surveillance	Regulation of Investigatory Powers Act (UK)	2001
• Security/trust	Electronic Communications Act (UK)	2000
• E-mail	Human Rights Act (UK)	1998 (in force from 2000)

Identifying where the breakdowns occur, i.e. the difficulties raised, can be helpful in assessing the differences between off-line regulation and on-line regulation.

<sup>9</sup> In Annex 1 of the IFIP-SIG9.2.2 meeting, January 2001.

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To gain some insights into the areas of breakdown, we can take each of the pieces of legislation mentioned above and see where the tensions occur:

- The Communications Decency Act, instigated to address the issue of easy access to pornography, and eventually discarded as being unconstitutional, highlights the difficulties of applying different standards to diverse groups. In this instance the diversity is to do with age, i.e. what is considered suitable for one age group and not suitable for another (adults and children).

“A panel of federal judges in Philadelphia ruled unanimously that the CDA was a violation of the First and Fifth Amendments. ... The Supreme Court ... declared that this federal law was unconstitutional. ... “In order to deny minors access to potentially harmful speech, the CDA effectively suppresses a large amount of speech that adults have a constitutional right to receive and to address to one another.””

(Spinello 2000: 49)

- The European Green Paper on the Protection of Minors and Human Dignity in Audio Visual and Information Services (1998) recognises areas of agreement between the member states for outright prohibition on certain kinds of material (e.g. child pornography), but at the same time observes that “the terms used and the degree of precision of national legislation vary widely”. In recognition of the global reach of communications networks and the restricted scope of applying national legislation the paper recommends minimum government interference, and opts for a combined approach of raising user awareness alongside technical fixes, such as PICS.
- The Data Protection Act in the UK, although introduced in 1998 only came into effect as from March 2000. This Act is an update of the 1984 Act, and specifically takes into account technological developments. Data subjects, for example, have additional rights such as:
  - the right to know the logic behind automated decision making
  - the right not to have significant decisions based solely on the results of automatic processing
  - the right to prevent processing for the purposes of direct marketing

The transfer of data within the European Economic Area is freely allowed, but outside of that area data may only be transferred if other countries ensure an “adequate level of protection for the rights and freedoms of data subjects” (Elizabeth France, Data Protection Registrar 1999). This latter requirement has been the subject of some



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debate regarding the exchange of personal data with the United States. The difficulties raised in this instance have been in aligning European and United States approaches to data privacy. The United States is promoting self-regulation, whereas Europe seeks a legal “appropriate level of protection” (Berleur 1999). To overcome the difficulties of exchanging personal information between EU countries and the United States a “safe harbour” principle has been introduced, whereby information can be exported to those companies whose privacy principles are in line with European requirements (*The Economist*, January 13th 2001).

- The Regulation of Investigatory Powers Act (RIP) has proved extremely controversial (see for example the reports from “Scrambling for Safety”). In trying to meet requirements for crime prevention (i.e. police access to communications) the Act is accused of threatening personal privacy. In an open letter (with 49 signatories including the Internet Society and Amnesty International) the opponents of the bill claim:

“The ability of Government to demand decryption keys creates a dangerous precedent which will affect the rights of all computer users. Surveillance of website visits will undermine confidence in the Internet ... “

(*Daily Telegraph*, 12 July, 2000)

The most difficult problem in the case of this piece of legislation is facilitating the government's traditional right of access to communications in order to prevent criminal or terrorist activities. The problem is a technical one: for government agencies to be able to decrypt a message they will need a key. How they access that key is the moot point. As the Act stands key owners are required by law to provide the key upon demand, and unless they can prove they never had one (which might be true), or have forgotten the code (which is also plausible), they may face a prison sentence. Opponents point out that this puts a burden of proof on citizens, which goes against the traditional principle of “innocent until proved guilty”, and claim the Act is in violation of the Human Rights Act.

- The Electronic Communications Act (originally referred to as the E-Commerce bill) first raised the contentious encryption issue with regard to digital signatures - seen as vital to the success of electronic commerce. Having suffered a number of delays, the original plan to give security forces mandatory rights over encryption keys was dropped (leaving them the power, however, to demand keys). The technology that enables identity verification, so important to conducting commercial transactions, has also proved a security nightmare for law enforcement agencies.

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- The Human Rights Act (UK) has one particular section which is directly in conflict with both the Regulation of Investigatory Powers Act and the Electronic Communications Act:

“... on the one hand ... giving employees the right to keep personal correspondence at work, including e-mail, private. On the other hand, a code of practice issued under the controversial Regulation of Investigatory Powers Act (RIP) gives employers wide powers to read all communications in the workplace.”

(Chris Partridge, *The Times*, 19 October 2000)

From the above examples we can pinpoint where some of the trouble spots arise:

- a diverse age range which raises problems in managing content
- a diverse cultural mix (international audience) with diverse opinions concerning definitions (e.g. pornography), thus inhibiting broad-based international legislation
- differing national standards and approaches to, for example data protection, which has a bearing on international trade
- technical constraints (as in decrypting communications) which severely limit government surveillance practices
- the magnification of tensions between the rights of the individual versus the national interest (as in the RIP Act)

## 6.7 Distinctions between “old” and “new” issues

Taking the *issues* covered by legislation (pornography, personal data, surveillance, security/trust and email) a similar analytic approach can be used to determine whether they are new or challenging to traditional ethics (as referred to in Chapter 2), or whether the difficulties lie more in the domain of “managing” ethical behaviour.

To take the issues in turn:

- Pornography is an issue which has a long history. From the legislative point of view there are the usual problems concerning what constitutes pornography. However, these boundaries have already been drawn in pre-Internet regulations. The point of breakdown in the Internet context (as shown in the previous section) is the access to this material by minors - the way to prevent access through legislation is by censorship which conflicts with freedom of speech issues (a value which has high priority in most of the western world).

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- The collection and manipulation of personal data has for a long time been considered dangerous in the wrong hands, the difference with computer technology is that it is easy to do (less labour intensive, faster, and financially viable). Combining personal information, thus providing a personal profile, raises a privacy issue. Privacy has become one of the most talked about issues in the computer ethics/Internet ethics literature. Although the notion of privacy is not new (there are laws against trespass, “peeping toms”, stalking; and the previously discussed special warrants to conduct surveillance and interception of mail), the boundaries between public and private are not clear on the Internet (as we have seen with email). The Internet can accommodate private and public communication, but there is an overriding impression that because the Internet is a “public space” the very fact of being “on the Internet” brings exposure. A similar point of view is sometimes put with regard to public figures and the press - if you are a public figure you must expect public exposure.
  - Surveillance has always been considered sufficiently intrusive to be warranted only under special circumstances (hence in the United Kingdom the legal requirement for law enforcement agencies to obtain special permission to conduct such activities). Technology has made surveillance progressively easier (as evidence, consider how surveillance would be carried out without technology) and, particularly in the case of the RIP Act, civil rights organisations are extremely concerned that due care is taken look after the public interest:

“We urge the government to withdraw the bill. Any subsequent legislation should, at the very least, provide stringent limitations and oversight to ensure that it does not violate the rights to liberty, fair trial, freedom of expression, freedom of association, and privacy.”

*(Daily Telegraph 12 July 2000)*

- Matters of security and trust, mentioned in connection with e-commerce, are as relevant in the “high street”, although the traditional means of making personal judgements (in this context, assessing risk) are different on the Internet. Publicity regarding insecure credit card transactions, and other aspects of trust, have promoted encryption strategies, and “integrity” badges (e.g. TrustE).

These issues, it seems, are not new ethical issues, they are simply difficult to regulate in the medium of the Internet.

The final item on the list is email. This might fit into a “new issue” category, certainly it is a new way of communicating. However, the discussion in Chapter 5 on e-mail and the

analogy with the traditional postal system, indicates a problem of security or privacy which are in part based on historic cultural expectations. In other words, “mail” is traditionally assumed to be private, unless received in a business environment (and even then can be marked private or confidential). It is also perceived as secure, and although it can easily be opened it is difficult to hide the fact that it has been tampered with - unlike email which can be read by others without the recipient knowing.

One issue not covered by recent legislation, but an issue which has raised an enormous amount of debate, is that of Intellectual Property. Software is the example most commonly given in the computer ethics field of the sort of new issues raised by computer technology. The argument put forward here is that this is not a new ethical issue. The following paragraph attempts to clarify some of the confusions in this debate.

The conceptual difficulty with software, as explained by James Moor (1985), is with fitting it into an existing intellectual property framework (he asks is it an algorithm or a process etc.). To add to the confusion there are a number of different perspectives to this issue. One is an attempt to find a moral justification to prevent software piracy (the copying of a software application wholesale, to be used or sold on to others), the second is the more complex issue of the source code, and whether (and how much) of that can be legally copied, or morally justified. In the first case, we are talking about the wholesale reproduction of something which would normally be bought from the producer, in the second the decision is how much of that “thing” should be in the public domain. This latter argument falls within the patent argument, whether it is morally justifiable for the components of a valuable resource to be owned by one party, and if that is the case how much that restricts the pursuit of science by others.

The first interpretation does not make software a candidate for the “new issue” category, wholesale copying of software has striking similarities with other forms of copying (such as videos, and music), and, like video and music copying, a lot of people do it and are usually well aware of the moral implications. The second interpretation falls within the domain of science, and similar debates are familiar in the medical field and the pharmaceutical industry.

## **6.8 The impact of regulation on ethics**

We have seen, in section 6, how attempts at Internet regulation have raised ethical concerns (exemplified by the RIP Act), and the practical difficulties of implementing any legislation on the Internet. Regulation also affects the ethical environment in other ways. The discussion in the previous paragraph concerning Intellectual Property and software has shown there are some difficult and ambiguous issues. This section emphasises the

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instrumental aspect of legislation, and its impact on ethical thinking and behaviour. The problem of copying software, and the activities of hacking are given as examples of ambiguous issues which have been accommodated into existing legislation.

Intellectual property is one of the main concerns of Internet ethics, and is already covered by legislation. The Internet does raise “difficult to manage” concerns regarding this issue. The notion of intellectual property has been with us for some time. The difficulty, as we have seen, has been in deciding what software is (an idea, a process, or an algorithm). The law has in fact decided that it should be counted as intellectual property (Johnson 1999: 4). Perhaps the most difficult problem is the potential scale of distribution which the Internet allows. One particular problem which is not covered by the law, identified by Sara Baase (1997), is the free distribution of software (via bulletin boards for example). In her example different legal routes were tried to get a conviction (for example, categorising this act as wire fraud) but were dismissed. In the following quotation (Baase 1997) illustrates the ethical force of legislation, at least to the extent of the legitimacy it gives itself as a moral imperative:

“The judge's comments illustrate some of the problems of current software copyright law: “What the government is seeking to do *is to punish conduct that reasonable people might agree deserves the sanctions of the criminal law ...* It is not clear that making criminals of a large number of consumers of computer software is a result that even the software industry would consider desirable ....” (my italics)

(Baase: 1997)

A similar strategy has been noted by Lessig regarding hacking:

“As these cultures came into conflict, real-space law quickly took sides. Law worked ruthlessly to kill a certain kind of online community. The law made the hackers' behavior a “crime,” and the government took aggressive steps to combat it. A few prominent and well-publicized cases were used to redefine the hackers' “harmless behavior” into what the law would call “criminal.” The law thus erased any ambiguity about the “good” in hacking.”

(Lessig 1999: 194)

## 6.9 Conclusions

This chapter has shown that not only is regulation a means of controlling behaviour, it is also a useful strategy for “aiding and abetting” ethics. In James Moor's terms (i.e. policy), regulation influences ethical behaviour by either restricting behaviour or promoting policies or guidelines.

The three aspects of regulation investigated here show an environment which is historically seen as unregulated, and which still has a strong lobby for minimal government intervention (as evidenced by the two debates reported here, and the EURIM recommendations). Where legislation has been introduced, the difficulties encountered can be useful in highlighting differences between off-line circumstances and the on-line environment. The findings of this section show that the Internet has a diverse user population, both in terms of age and culture, which provokes a number of problems regarding content management, and broad based international legislation. International trade (as in the case of personal data) particularly shows the difficulties of different national standards. In addition, the technical answer to security issues (encryption) turns out to be too secure as far as law enforcement agencies are concerned. The proposed regulatory means of assuring government interception has resulted in a radical change for citizens, putting the burden of proof on individuals rather than the police.

Using the formality of regulation as a strategy to analyse the issues, with a view to distinguishing new from old, reveals email as a possible candidate for the new issue category. However, observations from Chapter 5 on analogies suggest that after all the difficulties may be due to false expectations concerning privacy and security. Although the Human Rights Act confirms the analogy with “mail” by ruling that email should be private (even in the workplace), monitoring of email by employers is condoned by the RIP Act, and the Electronic Communications Act. Therefore, employees are still in the position where they cannot be sure whether their email is private or not.

Finally, we have seen how regulation in itself can be used to shape, or define, what is legitimate social behaviour. The decision to make software intellectual property, and to criminalise hackers are examples of the power of regulation in influencing ethical viewpoints.

These three factors combine to provide an ethical context which at the current time is still in the developmental stage; (i) regulation is perceived as an intrusion on the Internet, (ii) there is a novelty about the issues which can be more appropriately ascribed to context rather than “new ethical issues”, and (iii) where legislation has been attempted there are many confusions which need to be attended to.

The novelty of the Internet environment, and the complex issues surrounding regulation, have together inspired a great deal of debate, discussion and consultation.

The Internet presents a novel environment, and the regulatory issues are complex. It is vital to have “meetings of minds”, and open discussion, to bring different aspects to light. The

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IFIP SIG9.2.2 workshops, and the consultation processes of EURIM, were found to be valuable in this respect. In attempting to put in place an ethical infrastructure, and find an “Internet ethics”, discussion underpins the “Process of Ethics” (Duquenoy and Whitehouse 2000):

“The events reported in this paper describe the process of ethics, that is, of sharing thought and reformulating ideas. According to Jürgen Habermas (1983), discussion is at the heart of ethics, enabling learning and promoting understanding. In providing a forum for discussion SIG9.2.2 has endeavoured to activate and fuel the process of ethics.”

## Chapter 7

### Problems and prospects with ethical theory

*“When considering the ethical import of new policies in light of traditional ethical theories we frequently discover a strong rivalry between the leading contenders - consequentialist theories that emphasise the consequences of action and deontological theories that stress rights and duties. Especially where consequentialist theories and deontological theories offer hopelessly incompatible solutions, applied ethicists, searching for practical guidance, find themselves immersed in an ad hoc deliberation, scrounging for solutions from an inconsistent pile of principles.”*

(Editorial, *Ethics and Information Technology* 1:1, 1999)

*“To be sure the Internet will present unique ethical challenges that could never have been envisioned by Kant or Mill ... “*

(Spinello 2000)

#### 7.1 Introduction

Throughout this thesis we have been talking about establishing an ethical context, through language, through concepts and through regulation (chapters 4, 5 and 6 respectively). Establishing an ethical context in these ways may well prove to be fruitless however, if the general environment of ethical theory is perceived to be one of muddle and confusion.

Chapter 2 revealed diverse opinions regarding the status of computer ethics, and the place of traditional ethical theories in the computer ethics context. The opening quotations, above, are indicative of the main two positions in the debate; the first summarises the difficulties of applying traditional ethical theory, and the second follows the uniqueness argument. The literature review showed that some authors advocate reconceptualising the issues so that they fit in with traditional ethical categories, whereas others believe a new ethics is needed. The divergent views give a confusing picture of the central source of difficulty, i.e. matching traditional ethical theory to the issues under discussion.

This confusion presents a serious problem, not only from the point of view of practising computer professionals seeking moral guidance in a new and confusing domain, but also for ethical theory. There is a serious danger that the credibility of ethics will be undermined - either because it is seen as unhelpful, or because it is viewed as a somewhat arbitrary device for justifying certain actions.



The overall aim of this chapter is firstly to show that in demoting the value of traditional ethical theories, i.e. saying that they do not work for computer ethics issues and a new theory is needed, there is a danger of “throwing out the baby with the bathwater”, and secondly to show that in the global context of the Internet these theories play a valuable role in setting a foundation for a move towards a global ethic.

The structure of the chapter is as follows:

- Unpack and clarify the different claims from computer ethics regarding the “new issues, new ethics” controversy
- Outline the implications of these claims in relation
- Redeem the value of ethical theory as an aid to analysis and moral justification
- Summarise the particular difficulties of the Internet in this context
- Put forward a role for traditional ethical theory in a wider context of discussion.

## **7.2 Computer ethics and ethical theory**

The rationale behind computer ethics is that computers raise special ethical issues which challenge traditional ethical notions and traditional ethical theory. The “traditional” ethical theories referred to, and which are commonly used within the computer ethics field (taken from a survey of the computer ethics textbooks, starting with Johnson 1985, to the most recent publication, Spinello 2000) are:

- Varieties of consequentialism (most commonly utilitarianism)
- Duty-based ethics (following Immanuel Kant)
- Social contract theory (following John Rawls)

The literature review brought to light diverse opinions - summarised by Deborah Johnson (1999) as follows:

“The controversy has focused especially on whether the ethical issues surrounding computer technology are unique. Are the issues really different in the sense that they require development of a “new ethics”? Or are computer-ethical issues simply old ethical issues in a new guise?”

The implications of the above summary are:

- (a) the issues are different (requiring a new ethics) or,
- (b) the issues are old issues in a new guise (not requiring a new ethics)

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The conclusion therefore is that *only if* the issues are different is a new ethics required. In other words, the difficulties experienced with applying traditional ethical theory are due to the novelty of the issues. The focus of the debate then, from Deborah Johnson's point of view, is on the issues.

Emphasis on the *novelty* of the issues, as expressed by the quotation of Deborah Johnson, masks the problems with ethical theory which are the focus of other authors. A shift of emphasis towards an inadequacy in ethical theory is taken by Luciano Floridi (1999: 37):

“standard ethical theories cannot easily be adapted to deal with CE [Computer Ethics] problems, which appear to strain their conceptual resources.”

Floridi's focus is more on the *adaptability of the theory*, rather than the newness, or otherwise, of the issues.

Moving right away from the novelty of the issues the quotation from the Editorial of *Ethics and Information Technology* which appears at the beginning of this chapter changes the focus completely to the *inadequacies* of traditional ethical theory, excluding any mention of novel issues. This part of the editorial is in fact summarising the view expressed by James Moor in that journal, but similar comments regarding “hopelessly incompatible solutions” and “inconsistent principles” have also been made by van den Hoven (2000) and Hamelink (2000).

Thus we can see a change of perspective from the *issues* which are the cause of the problem, to *traditional ethical theory* which either cannot cope with the novelty of the situation, or, even worse, simply adds to the difficulties by giving incompatible solutions and inconsistent principles.

Both of these perspectives, i.e. the issues and traditional ethical theory, are valid. However, concentrating solely on the issues (and whether they are new or not) does not address the wider concerns of applying traditional ethical theory. The issue of how useful these ethical theories are needs addressing, regardless of whether the computer ethics issues are found to be new, or not. There are, of course, practical concerns about how to arrive at ethical decisions, but there are also wider implications for what this author terms “the ethics project”, i.e. the credibility of ethics. This is the subject of the following section.

### 7.3 The implications for ethics

The difficulties described above paint a bleak picture for ethics, and we should not be surprised if practitioners within the information technology profession are unconvinced of

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the value of ethical theory in addressing difficult ethical dilemmas. Even less will they themselves be encouraged to pick up the ethics “gauntlet” and get involved in the application of ethics to technological issues.

Part of the work of computer ethics, and Internet ethics, is to raise the awareness of computing professionals to the sorts of issues discussed in this thesis, and elsewhere (e.g. the media). The British Computer Society actively promotes attention to these matters in undergraduate computing science courses, and masters degrees are also being offered in this subject. However, an atmosphere of conflicting theories, and references to unique issues that challenge traditional theory, may simply result in despair, or worse, an abdication of any interest in the subject. There is also a strong concern that the application of moral theory is perceived as purely instrumental, and somewhat arbitrary. Steinke and Wong (1998) note:

“... students and practitioners of computer ethics may be insidiously led to the rather dangerous conclusion that the only justification needed on ethical matters is personal opinion or preference. Furthermore, there is a real danger of “retrofitting” an ethical theory onto an already reached conclusion if theory does not play a significant role in justification”.

(Steinke and Wong 1998)

Whilst attempts to introduce moral theory to students of information technology is perhaps conceived as fundamental to any discussion on computer ethics, or Internet ethics, and the enterprise of raising such matters with computing professionals is laudable, a certain amount of credibility may be lost when the application of different theories to particular scenarios produces “hopelessly incompatible solutions”. Hamelink (2000: 5) emphasises this point by citing Winkler and Coombs (1993: 3):

“Concrete experiences in such fields as medical and business ethics have led 'to a serious if not widespread erosion of confidence in the power of normative theory to decisively guide the resolution of real practical problems'.”

A view corroborated by James Moor (1999: 65):

“ .. the absence of resolution among the ethical theories leaves many with a somewhat jaundiced estimate of the value of ethical theory altogether. Applied ethicists, searching for practical guidance, find themselves immersed in ad hoc analyses of ethical problems and selecting solutions from an inconsistent pile of principles ... I believe that ethics

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needs more unifying theories that call upon the various strengths of the traditional approaches to ethics.”

## 7.4 Putting things into perspective

Whilst not denying that the issues under discussion in the field of computer ethics, and Internet ethics, are proving extremely difficult to resolve, and that the comments concerning traditional ethical theory have foundation, this is not a problem that is specific to computer ethics.

Applying ethical theory to real world problems has always been a difficult task, especially when seeking consistent guidance in choices of actions. In posing the question “What *should* we do (given a certain set of circumstances)”, there is very often no clear answer. As Hamelink (2000: 4) notes:

“The application of classical moral theories of deontological or utilitarian signature provides little or no help in the resolution of concrete moral dilemmas in real-life situations”

Although the claim might be correct that “traditional ethical theory *is* challenged by computer technology”, it could equally be the case that “traditional ethical theory is challenged by a variety of life events”. That is, traditional ethical theory is *no more* challenged by computer ethics than it is challenged by other life events. Tom Sorell (2000), investigates similar claims made against traditional<sup>10</sup> ethical theory from other applied ethics sectors:

“Cases where the mainstream theories supposedly fail to apply or apply awkwardly are reasonably well known. Ecology and gender are familiar areas of difficulty.”

(Sorell 2000: x)

Criticisms of ethical theory from these other sectors are strikingly similar to those expressed in the computer ethics literature:

“Thus deep environmentalists complain that welfare in utilitarianism is only ever the welfare of the sentient, leaving much of the rest of nature with no moral claims on us. Radical feminists complain that apparently gender-neutral and ahistorical theories of justice are unable to recover the ways in which male oppression of women differs from

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<sup>10</sup> Sorell uses the term “standard” instead of “traditional” to refer to virtue, utilitarian, Kantian and Rawlsian theories.

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other forms of oppression ... *meeting the challenges supposedly requires an overthrow of at any rate utilitarianism and Kantianism and the development of some entirely new theory or theories.*" (my italics)

(Ibid.)

Thus we can see that it is not only in the computer ethics field that there are difficulties with traditional ethical theories. Moreover, the earlier claim that traditional ethical theory gives conflicting outcomes should not be seen as a failure of the theories individually. Differing moral conclusions are not necessarily the root cause behind the difficulties of applying ethics to "real life examples". Admittedly there are problems of inconsistency in determining what the morally right action might be - standard theories are of course different from each other in that they promote different values and different positions. Whether you believe the consequences of an act take priority over the act itself, and act on that belief, will produce a different action. It is therefore not surprising that applying different theories to particular issues may produce conflicting outcomes.

The sheer range of theories posited, and the wealth of literature and debate they have generated within the field of moral philosophy, shows the complexity of the problem. Janna Thompson (1998), in a discussion on ethical disagreement, quotes Pollock (1985: 522) who takes the view that disagreement does not necessarily render ethics unviable - some situations are just simply difficult:

"It could well be the case that people differ in their moral judgments just because moral judgments are hard to make. They might have the rational equipment needed to resolve most moral disagreements but fail to do so because such resolution is difficult."

J. L. Mackie (1977: 130-2) adopts a similarly common-sense attitude. He suggests that amongst the many difficulties encountered with applying ethical theory, is the fact that they ask too much of human beings. Although aspiring to the best motives and intentions, humankind has its frailties. Taking as an example the biblical commandment "Thou shalt love thy neighbour as thyself" as "often taken as prescribing a universal and equal concern for all men" and interpreted by Mill as "effectively equivalent to the utilitarian principle", Mackie declares:

"it is similarly impracticable. People simply are not going to put the interests of all their 'neighbours' on an equal footing with their own interests and specific purposes and with the interests of those who are literally near to them. Such universal concern will not be the actual motive of their choices, nor will they act as if it were."

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Moreover, such idealism is likely to do more harm than good, and

“encourages the treatment of moral principles not as guides to action but as a fantasy which accompanies actions with which it is quite incompatible. ... To identify morality with something that certainly will not be followed is a sure way of bringing it into contempt”.

Mackie expresses an important point which relates to perspective, and which is at the hub of this discussion. In the passages quoted he advises that setting unrealistic goals negates any practical value of moral theory, and puts its principles in the class of “fantasy”. The consequences, he warns us, are to bring morality into “contempt”. The problem he raises is one of the problems, this writer suggests, of the computer ethics debate. The criticisms of ethical theory regarding its application to computer-related issues, leads to the belief that under other circumstances (i.e. non-computer situations) ethical theory can provide good answers. This is simply not the case.

The aim of this section has been to show that the expectations regarding ethical theory and its application to the very difficult problems arising from computer technology are unrealistically high, and therefore the consequences are bound to be disappointing. By showing that ethical theory is equally challenged in other domains, this author has tried to put the difficulties into perspective. Put another way, it is not necessarily that ethical theory is failing, it is that our expectations of what ethical theory can give us are unrealistically high. Pointing to the inadequacies of traditional ethical theory carries the danger of “bringing it into contempt” - to use Mackie's words. Moral issues are difficult - attested to by the wealth of literature on both moral theory and applied ethics.

If it is the case that the traditional ethical theories have been put on a pedestal, and that we expect too much of them in the applied sense, we need to ask the question “how useful is it to apply these theories, and what can we more realistically expect?”

## 7.5 Why use ethical theory?

In view of the above difficulties, and the apparent inadequacy of ethical theory, one might ask what can be practically gained from applying it to difficult issues. Sorell (2000) puts forward two roles of moral theory, one is in grounding “the various precepts and prohibitions that most of us internalise through upbringing as some sort of unity “ (Ibid.: 5). This role is important even in the event of transferring to a new ethics. The other is to aid conscientious reflection. For example, in public policy decisions:

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“For everything relevant to be given weight, and for relative weights of goods to be reflected in reasoning, principles need to be devised that take one far from unreflective, everyday morality.”

(Ibid.: 4)

And for individual actions:

“Theory can also be required where the decisions before the agent are small-scale, for example, where there is a conflict among the demands of personal morality, or a conflict between personal morality and the demands of some more public role the agent occupies ...”

(Ibid.: 5)

In other words, we could say that the principles of a theory provide a yardstick against which we can objectively measure our personal actions or intuitions. It is in this context that ethical theory can be useful.

Whilst it must be admitted that ethical theory does not generally give hard and fast, or easy, answers to the problems we are trying to solve, the criticisms regarding its deficiencies ignore an important aspect: that is, its utility as an aid to rigorous thinking. In offering a framework for analysis the application of ethical theory can be helpful by (i) drawing out hidden dimensions of a problem, and (ii) providing a rational justification for the decision ultimately reached. These two aspects are illustrated by the following examples. The first shows how applying the two traditional theoretical approaches can draw out arguments and reveal insights in one of today's most complex issues - intellectual property. The second example is aimed at the practising professional, and shows how a rational approach can be helpful when faced with difficult practical issues such as prioritising values and assessing conflicting outcomes.

Helen Nissenbaum's (1995) essay “Should I copy my neighbor's software” investigates the various arguments offered in support of intellectual property, and in particular scrutinises the moral justification for, in her words, a “strong no-copy view”. Copying software is generally thought of as being morally and legally unjustifiable. However, Nissenbaum challenges the arguments commonly offered to support this view, finds they are based on unsupported premises, and concludes that a “strong no-copy view” cannot be universally applied across all cases. She presents her case as follows.

Taking a consequentialist perspective, and pursuing a claim that software copying discourages creation and causes artificially high prices, Nissenbaum first of all comments

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that there is no demonstrable link between copying and reduced income to the developers. She says:

“If copying hurts the software industry but has no effect on general welfare a prohibition is not morally justifiable on consequentialist grounds. If copying is not directly related to income, nor income to a decline in the industry, then too, the argument breaks down. On close scrutiny these links don't stick.”

(Ibid.: 203)

Nissenbaum counters the reduced income arguments with the proposal that copying can lead to increased spending, by giving timid users the chance to try before they buy, which may lead to greater interest and increased spending. Against the argument that copying inhibits creativity (by compromising the reward to programmer), she refers us to the position held by Richard Stallman who “ably makes the point that directly tying software production to monetary reward paints an overly simplistic picture of the rewards that motivate programmers”. Stallman believes that “prohibitions on copying, and other restrictions on the free distribution of computer code, has the opposite effect on computer technology ... slowing progress rather than encouraging it”.

A further comment made by Nissenbaum, one which is not commonly noted, is that the “no-copy position unreasonably focuses on private end-users, placing on their shoulders the onus of maintaining the health of the software industry” (ibid: 205). She observes that government, hardware producers as well as software companies “all have the power to significantly affect the software industry”, and “it is wrong for the private consumer to be unfairly burdened with responsibility.”

From the rights-based position, Nissenbaum refers to arguments which are founded on the “rights of programmers” and “respect for their labour”. To substantiate this position, Nissenbaum observes that proponents need to “identify the rights of programmers” in this context, and further demonstrate that “copying always violates these rights”. Even if we can conclude that programmers do own the programmes they write, “it is not obvious that property rights over programs include the right to restrict copying to the extent desired.” One argument used in support of intellectual property, following John Locke (1632-1704), is that people are entitled to the “fruits of their labour”. However, Locke does add the proviso that the acquisition of property is only morally justifiable “where there is enough, and as good, left in common for others”. In other words, Nissenbaum points out that “property rights are subject to the limitations of countervailing claims of others”.



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Pre-empting the criticism that copying software is immoral because it amounts to stealing, Nissenbaum holds that the assumption “copying is stealing” begs the question. Until it can be determined that copying always violates property rights (which the discussion above queries), it cannot be assumed that copying is stealing.

Whilst in no way endorsing the copying of software, Nissenbaum concludes (1995: 211):

“Finding that there are insufficiently strong moral grounds for universally prohibiting copying, I conclude not that all unauthorized copying is morally acceptable, but that that (sic) some copying is acceptable. There is sufficient variability in the types of situations in which software users copy to suggest that we ought to evaluate them case-by-case”

The discussion above shows that ethical theory can be useful in the analysis of issues, but that such theories do not provide hard and fast answers to some of the dilemmas we encounter in practice.

The following example also uses ethical theory as a methodology for analysing a particular case, and illustrates that the problem of conflicting outcomes does not necessarily negate the usefulness of the applied approach.

This particular example, used by Mason, Mason and Culnan (1995) investigates the issue of personal data. Their hypothetical situation is based on the “loyalty card” idea offered by some supermarkets; in this particular case the promotion is called “the Promise Club”. The ethical issue introduced is one of the supermarket passing on customer details to another agency. Analysing the issue from the perspectives of “traditional ethical theory” Mason, Mason and Culnan (Ibid.) advise us that two morally different conclusions may be reached. However, that is not the main point of this example. The purpose of this example is to illustrate two dilemmas: (i) conflicting principles within a theory, and (ii) conflicting outcomes of the two (deontological and teleological) principle theories used in applied ethics. To overcome the first problem a strategy of “supersession”, i.e. prioritising rights or duties, is used to mitigate the inflexibility of deontological reasoning. In the second, perhaps more problematic case (as far as ethical theory is concerned), the authors observe that in the final analysis the decision which outcome is best depends on the moral values held by the decision-maker:

“These conflicting rule-based and utilitarian conclusions must now be resolved. A person who believed that any harm to customers was intolerable would judge the program to be unethical, whereas one who weighed all of the consequences may conclude that the program was ethically defensible.”

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(Mason, Mason and Culnan 1995: 134-5)

In justification of using these theories for purposes of moral guidance, Mason *et al.*, argue that whichever position was finally adopted, the outcome could be rationally justified.

“In either case, the final judgement would be based on articulable reasons derived from ethical theories and principles.”

(Ibid.: 134-5)

Although in one sense the decision appears to be arbitrary, and contingent on the moral values of the individual, Mason *et al.* stress that the outcome has some moral foundation, and has been thought through. It seems then, that the justification behind moral theory, in the applied sense, is not solely one of giving moral direction. The benefits of such an approach are that some sort of mental investigation is required, and the resulting decision has some rational basis. This approach is considered to be better than acting either “thoughtlessly” or on a “hunch”.

The foregoing examples demonstrate that there is a useful place for ethical theory in practice. Where there are complex ideas, or in cases where it is not obvious what one should do, the traditional ethical theories can help to provide illumination, and allow individuals to rationally articulate reasons for a moral choice.

## 7.6 Broadening the ethical perspective: the Internet

The problems encountered in the computer ethics field regarding applied ethics gain an added dimension with the arrival of the Internet, in the sense that the Internet brings with it issues of a global nature. Chapter 4 identified a number of features of the Internet which contribute to the ethical problems:

- a lack of understanding
- architecture
- scope, anonymity, reproducibility
- “easiness”

Chapter 6, discussing regulation, identified further difficulties:

- a diverse age range
- a diverse cultural mix
- differing national standards

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- the magnification of tensions between the rights of the individual versus the national interest

Although the above are problems to do with regulation, they also carry ethical implications. At the root of the first three is a question of defining standards. Not only is there a concern that children may be exposed to harmful material, but whose standards (of what is considered harmful) should apply? There is also a reasonable argument that the Internet is not solely for the use of children, and adult material should be available for those adults who want it. A similar argument applies to the diverse cultural mix - who, if anyone, should determine standards, or should standards be left open? The debate concerning data protection between Europe and the United States has explicitly shown how different communities have different standards, and different approaches to solving problems. Other tensions, between individual rights to privacy and the rights of the state to do what it can to protect citizens, and the state, from criminal activity, are made apparent in the encryption debate.

Given the tensions described above, offering opportunities for discussion is an important part of the process, and recognised as such by the UK government. However, the discussions concerning regulation (and self regulation in particular) highlight the practical difficulties of implementing legislation in a timely fashion. The Internet is still an immature technology, therefore the object of discussion is not static and fixed, but temporally dynamic and essentially unpredictable. In addition to the foregoing difficulties (setting standards etc.), we also have a situation wherein the Internet is characteristically dynamic, and changing. The Internet also offers a specifically two way interaction (in the sense that consumers can also be broadcasters and publishers) which is a different model to the original “computer plus user” model.

The problems of Internet ethics are subtly different to those of computer ethics, in so far that the Internet raises problems of scale, social exchange, sharing and boundaries. These problems are compounded by technological constraints - in Lessig's terms “regulability”.

## **7.7 A different strategy**

In elaborating the perceived difficulties with ethical theory put forward by computer ethicists, this chapter has highlighted problems concerning incompatibilities between the most favoured ethical theories. In response to this problem James Moor calls for “more unifying theories” (1999: 65), and Jeroen Van den Hoven (2000: 135) recommends these “overly simplistic accounts ... need to be supplemented or enriched to be adequate as an ethical framework”.

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The previous section noted the added difficulties presented by the Internet, such as its global reach (scale), social exchange, problems of sharing and boundaries, and changing technology.

Given the difficulties with traditional ethical theory discussed previously, it is perhaps tempting to opt for a new theory (as suggested by Floridi 2000). Are we asking too much, as Mackie (1997) might suggest, in attempting to resolve what might be termed local issues (that is, specific issues) and global issues with one theory?

### 7.7.1 A local perspective

At the local level, we could extend the range of theories on which we draw. Already discussions on intellectual property often refer to John Locke. However, barely any mention is made to John Stuart Mill's essay "On Liberty" (published in 1859), which has a direct bearing on the sorts of issues being discussed in connection with the Internet.

For example, in the opening paragraph of his essay Mill talks about the "vital question of the future" (in Cahn 1977: 1105). The "vital question" which his essay addresses is "the nature and limits of the power which can be legitimately exercised by society over the individual", either via government or social pressure. He argues that such pressure is only legitimate in preventing harm to others. This essay refers to values at the heart of the Internet debate. On the subject of self-government he has this to say:

"such phrases as "self-government," and "the power of the people over themselves," do not express the true state of the case. The "people" who exercise the power are not always the same people with those over whom it is exercised; and the "self government" spoken of is not the government of each by himself, but of each by all the rest."

(in Cahn 1977: 1107)

In promoting the "liberty of thought and discussion", which according to Mill is the route to discovering truth, he makes a distinction between free thought and free action, recognising the potential harm to others caused by "a positive instigation to some mischievous act" (this could be translated into contemporary language as incitement).

He even has something relevant to say on one of the hottest debates currently running - that of encryption. He refers to the implications of government interference in the name of crime prevention, and expresses similar concerns to those discussed in Chapter 6:

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“... how far liberty may legitimately be invaded for the prevention of crime, or of accident ... The preventive function of government, however, is far more liable to be abused, to the prejudice of liberty, than the punitive function ...”

(in Cahn 1977: 1165)

This is just one example of many possibly useful theories. Whilst these works can provide a foundation, and a different perspective, the application of existing work is not the only available strategy. According to Deborah Johnson (1994: 118), “The human approach includes better legislation, changing informal social attitudes and conventions ...”. A similar, more social approach, is advocated by Hamelink (2000: 4), following criticisms regarding the “erosion of confidence” experienced in other fields of applied ethics:

“In the quest for a more adequate approach it has been proposed to conceive of morality as 'an evolving social instrument' that is part of a specific cultural context (Winkler and Coombs, 1993: 3).”

### 7.7.2 A global perspective

Taking the global perspective, any new approach should take heed of the particular features of the Internet described above (diverse cultures, social exchange, etc.). What we seem to be looking at, in other words, is some type of global ethic, which will be supremely challenging - but not necessarily impossible (Dower, 1998, offers a persuasive argument for attempting such a project). Such an outcome will be the result of a lengthy process, which in a small way has already begun.

The previous chapter noted the importance of discussion in the “process of ethics”, and this research generally has promoted the notion of discussion throughout (combined with the dissemination of the results of discussions to a wider public). An investigation into other ethical approaches during the course of this research identified the theory of Discourse Ethics, put forward by Jürgen Habermas (see Duquenoy, Torrance and Thimbleby 1999: Appendix B:3). This theory offers a procedural approach to ethics, which is applicable to a changing social environment. Given the complexities of Internet ethics, there are advantages to the role of discussion as a route to reaching understanding.

Hamelink (2000: 5) endorses a discursive approach:

“In the dialogue it is explored upon which 'minima moralia' societies can find basic and common agreement. Since there are never ideal solutions for moral choices and since any moral choice is essentially contestable, the ethical dialogue does not automatically lead to the only acceptable moral choice, but renders moral choices communicative acts that

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are transparent for all those affected by them. The proposal for an ethical dialogue assumes there are always various plausible solutions to moral choice-situations. Therefore, ethical reflection should not focus on identifying the single correct solution, but should rather concentrate on the due process of the moral argumentation.”

In taking account of the “pluralist and multicultural” social context he notes:

“Moral standards cannot any longer be authoritatively imposed upon all the members of such societies. Under these conditions ethics can evolve in a legitimate fashion only through the dialogue among all those concerned.”

(Hamelink 2000: 5)

## 7.8 Discourse as an aid to understanding

We are thus left with the question of how best to proceed. It has been apparent to the researcher throughout the research period that discussion between experts has played a key role. In all of the working parties attended the outcomes of the discussions, as well as resulting in a publication which has been disseminated to a wider audience, have clarified issues and expanded the debate, thus increasing understanding and raising awareness. The purpose and existence of these documents by themselves are an acknowledgement of the very difficult issues and complex nature of the area under discussion. Authors within the field (Winograd 1995, Maner 1998) have emphasised the importance of this type of discourse:

“I use the word “discourse” here instead of “thinking” to emphasize the social construction that is at the heart of decision-making even when a person does not directly enter into conversations with others. In a real, if extended sense, I am in discourse not only with the people I speak with but with those who have written the things that have influenced me, and those I have talked with, and in turn those in the future who will be influenced by what I say and write.”

(Winograd 1995: 37)

In a similar vein, Walter Maner has produced an on-line interactive computer ethics explorer (ICEE) founded on the idea of “moral reference communities”. His first design assumption is:

**“Assumption 1 :** because moral growth necessarily has a social dimension, it is constructive to explore ethical issues in real-time, with other thoughtful persons.

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Although productive ethical reflections may sometimes be conducted in solitary, ethical engagement is necessary to validate, refine and mature these reflections. This is true not only in the sociological sense that norms are created “in community,” but also in the philosophical sense that enlightenment is created in dialogue. The otherwise sterile elements of ethical codes may suddenly become infused with life when there is sufficient ethical engagement among a diverse group of inquiring persons.”

(Maner 1998: 463)

Discussion and creating “spaces for discussion” is the remit of the IFIP Special Interest Group 9.2.2 (Framework on Ethics). The opening sentence in their major work on codes of conduct (Berleur and Brunnstein 1996: 3) declares:

“Creating 'spaces for discussion' on ethical issues in computing appears as one of the main tasks of an international association like IFIP.”

In the final remarks of the same publication, Jacques Berleur (1996: 246) recommends a participatory approach (following the trend in participatory design) in the context of setting codes of conduct, and offers Jürgen Habermas' Discourse Ethics as a possible model. In particular:

“These ideas of ‘ethics of discussion’ or ‘public spaces’ are interesting and important for our purpose ... by giving to the categorical imperative an appropriate realization ... At the same time, they allow us to include the participation of many and to give its real place to codes of ethics/conduct ....”

(Berleur 1996: 247)

## 7.9 Discourse Ethics in the context of the Internet<sup>11</sup>

Discourse Ethics concerns the validation of norms by rational consensus. The Internet is in an evolutionary stage, and it is likely that norms will be developed. This is exactly the use for “practical discourse” that Habermas has in mind:

“Practical discourse is not a procedure for generating justified norms but a procedure for testing the validity of norms that are being proposed and hypothetically considered for adoption.”

(1990: 103).

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<sup>11</sup>The ideas presented in this section formed part of an earlier piece of work “The Internet and Discourse Ethics”, Hypertexto, First Edition, March 2000. Reproduced in Appendix C, and available on line at: <http://www.hypertexto.com>

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Frances Grodzinsky (1999) believes the model of discourse ethics “might be promising” for the future ethical development of the Internet because of the necessarily open attitude to other ways of thinking it entails. However, she has reservations in that whilst discourse ethics offers procedure it does not articulate particular values, and she is concerned that the potential anonymous status of participants could jeopardise any serious commitment on their part.

Answering the criticism that discourse ethics does not advocate specific values it could be argued that, given the global context of the Internet environment, a more open approach outweighs the disadvantages of rigidly adhering to what might be seen as western values. This is not to suggest that values should be abandoned - a suggestion which is at least as unrealistic as “loving thy neighbour as thyself”. There is nothing to say that all western values are in opposition to values held in other parts of the world, and it could be that in offering a discursive approach there is a greater likelihood of reaching some agreement than by attempting to impose one particular view over another. Objections have been made in respect of the dominant western view and western values currently being promoted on the Internet (in an idealistic sense, and in the sense of western values designed-in to applications and interfaces). It might also be argued that a western, value-laden, moral theory is not appropriate to the Internet context. Admittedly, the democratic flavour of Discourse Ethics reflects a western perspective. The advantage of a democratic approach however, is that it is a concept already familiar to a great many users, certainly to any users who would be in a position to determine values, and who would be free to enter into discussion.

The rapid development of global communication calls for a dynamic approach which this theory can meet. Janna Thompson (1998: 38-39) refers to the theory as “diachronic” and notes “background assumptions, theories and moral principles are revised and changed in response to criticisms, changes in sensibility and new ideas. It emphasises ethical change and the evolutionary development of ethical understanding”. The procedure of discourse is appropriate to this context, given the current trend for “user autonomy”, and the caution exhibited by governments in a regulatory capacity.

Within a broader vision, the users of the Internet can bring a richness and diversity to our individual ethical perspectives. This input, together with the reflective process required in the rationalisation of our own moral beliefs (argued for in Section 7.5), not only extends our understanding, but also allows a critical assessment of why we hold the views we do, and makes room for a change in views. Even without a consensus being reached the process of discourse should lead to enlightenment, mutual understanding, and perhaps some agreement on common core ethical principles (as experienced by this author, Section 7.8). By



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providing the means the Internet offers an unprecedented opportunity to clarify and identify universal moralities.

“[T]he revision of the values used to interpret needs and wants cannot be a matter for individuals to handle monologically.”

(Habermas 1990: 68)

Frances Grodzinsky (1999), referring to the strong communitarian ethos that governed the Internet in its earlier days, asks “is our vision of an ethical global on-line society a realistic one?” She sees a direct conflict between the earlier ethos which promotes a “common good” and the contemporary view of western society which espouses an “individualism in which the person is autonomous and exists prior to the society”. She notes that the Internet has become “a pluralistic society comprised of different groups and different cultures often with conflicting values.” As well as all of this, she draws our attention to another tension between regulation (by law) and those who try to preserve the values (unregulated) that have existed previously. Grodzinsky asks: is it possible to establish a metaethic that will protect its development as a global community?

“Those who are seriously involved in conceptualizing policy for this global space should make ethical and social issues a primary concern. To this end, they might have to integrate models that work in a open pluralistic society with those that have a strong moral component.”

(Grodzinsky 1999)

My own response to Grodzinsky’s argument of individualism is to refer to Charles Taylor (1991), who makes a strong case for the position that even an individualistic morality has common core values which can be articulated in a wider world.

## 7.10 Conclusions

The aim of this chapter has been to clarify some confusions concerning traditional ethical theory. This author has shown that although there are difficulties applying traditional ethical theory to the ethical issues raised by information technologies, this does not necessarily imply uniqueness as far as these issues are concerned. Applying ethics is a difficult task, and the use of these “traditional” theories in other fields - such as business, politics, feminist and environmental - (Sorell 2000) has proved similarly challenging. Ethics is a notoriously challenging subject:

“From the dawn of philosophy, the question concerning the summum bonum, or, what is the same thing, concerning the foundation of morality, has been accounted the main

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problem in speculative thought ... And after more than two thousand years the same discussions continue ... and neither thinkers nor mankind at large seem nearer to being unanimous on the subject ...”

John Stuart Mill (1806-1873)

Whilst this puts the difficulties of computer ethics into perspective, there is a separate problem to address, that is, the potential loss of faith in the use of ethical theory from a practical point of view. The argument put forward in this chapter is that the traditional ethical theories are still worthwhile in that they provide a valuable tool for rigorous thinking, and still capture long held values (for example, certain acts or outcomes are better or worse than others). Furthermore, in expecting incontrovertible guidance we are asking more of these theories than can be reasonably expected.

It has been suggested here that the range of theoretical work should be extended, and rather than hoping to find all the answers in either deontological or teleological approaches, new perspectives may be found for specific issues in more individual contributions, for example Mill's (1859) essay “On Liberty”.

As far as the Internet is concerned, taking into account the particular difficulties of diversity, the answer is by no means easy. Internet ethics could be viewed as an uncharted “ethical” sea, and for the time being, and in such a situation it may be more appropriate to concentrate on the process of ethics, that is, how we move towards a solution. This chapter has suggested that one useful way forward is to adopt a more dynamic and flexible approach to the issues of Internet ethics - discussion and dialogue - following the theory of Discourse Ethics.

It is not suggested that Discourse Ethics will provide all the answers, a process which relies on communication in a multi-lingual environment sets particular challenges. However, it does aim to promote and extend understanding, which as an ideal may be classed as an ethical principle in its own right.

This is an inspiring prospect, but what of the practicalities? According to Habermas (1990) the pre-conditions for this type of discourse are that all participants should be willing to engage (which implicitly requires an open mind), competent (have the ability to be rational), and be free from coercion. Internet users can, potentially, meet all those requirements. There are however, strong reservations, such as the issue of free expression (unacceptable in some nations), and language competence (a global exchange necessitates translation). Achieving understanding through dialogue can be demanding in one's own language, and is certainly likely to be a challenge via a translation process. The reservations expressed by

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Grodzinsky (1999) concern the enormous number of legitimate participants and stakeholders on-line. Reservations apart, it may still be worth the attempt (a position supported by Nigel Dower (1998), arguing for “cosmopolitan ethics”).

This thesis has been concerned with the ethical problems of the Internet, but the very basis of the challenges the Internet has raised (global exchange) offers the *opportunity* of global consensus (as an ideal). The Internet can facilitate the process of ethics in the following ways:

- by offering a platform, or “space for discussion” which is free and uncoerced
- by actively encouraging the exchange of views in a co-operative and open environment
- by giving opportunities for such discussion (including translation)
- more specifically, via discussion groups, web pages (linked to discussion groups, information, and suggested reading)
- by offering a focus for discussion (perhaps taking the two different viewpoints outlined above: that is, (i) what moral norms might be appropriate within the Internet society?  
(ii) identify areas of agreement, i.e. common norms and values)

and finally, by advocating and promoting policies which facilitate the furtherance of these ends.

# Chapter 8

## Conclusions and further work

### 8.1 Summary

The aim of this research has been to clarify the domain of Internet ethics, with the objective of providing a clear foundation for further work. This is a new area of research incorporating diverse issues, with no clear frameworks for action or research paradigms. The methodological approach chosen has been to distinguish four separate areas for investigation. The decision to select these particular areas was guided by the topic itself (the technology of the Internet) and problems from the computer ethics field (conceptual muddles and policy vacuums, and difficulties with applying traditional ethical theory).

Investigation within these four areas has revealed some interesting influences upon ethical thinking and ethical “contexts”. The following four sections (8.1.1 to 8.1.4) summarise the themes and conclusions of the four different perspectives taken in Chapters 4 to 7.

#### 8.1.1 The technological perspective

Chapter 4 began by illustrating how technical terminology can factor out ethical thinking by giving a purely technological context which ignores the human element. Whilst technical descriptions may be entirely appropriate in some circumstances, it is important to be aware that such descriptions can undermine an appreciation of the ethical implications of technology. The view that technology is ethically neutral and is no more than a tool has important repercussions regarding the responsibilities of the computing professional within an ethical society. Taking such a view allows an abdication of ethical responsibility.

The chapter then gave examples of technological developments put forward as an answer to some of the ethical difficulties (e.g. filtering inappropriate content, and privacy initiatives), and noted that these solutions themselves raise other ethical questions. To a certain extent this demonstrates the instrumental aspect of technology, i.e. that technology is a tool which people will use in different ways (beneficial or otherwise), but it also shows that constraints can be designed into computer technology. The cases of PICS and PGP show a conscious and specific ethical purpose to their creation. If a conscious attempt to build beneficial ethical tools is possible (as it has been shown to be), then it is also possible to build the opposite. Ethical values *are* incorporated into computing technology either consciously or unconsciously, and constraints *are* put on the user regarding their choices of action. Developers of this technology often deny the place of ethics in their work, and although some headway is being made to raise awareness of computing professionals to ethical issues and the responsibility that incurs, there is certainly no room for complacency. The

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paper “Justice and Design” (Duquenoy and Thimbleby 1999, see Appendix B:2) introduces the idea of specifically incorporating the ethical notion of justice into design practice to encourage better design. It is hoped the paper, which illustrates links between John Rawls classic Theory of Justice and existing HCI design principles, will show that moving towards ethical design does not necessarily involve a new design paradigm.

### **8.1.2 Setting the context with metaphors and analogies**

Those working with Internet technology have a technical understanding of the Internet which gives a technical viewpoint. The focus of Chapter 5 was on the users, and potential users, who do not have technical expertise and instead rely on metaphors and analogies to contextualise the Internet environment. Whereas the technical viewpoint appears to exclude ethical connotations, the metaphors and analogies used to explain the Internet may distort ethical expectations and behaviour. References to “Cyberspace” carry with them expectations of some new frontier land, which is unregulated and unregulatable, that is, where “anything goes” - a view confirmed by media reports of pornography, viruses, hackers etc. Other descriptions relating to applications, such as email, can be misleading as far as ethical practices are concerned (for example, non-confidentiality).

We thus have at least two influences on ethical thinking and ethical behaviour as far as the Internet is concerned. Both refer in some way to terminology, the first viewpoint (technical) which excludes an ethical relationship, and the second which attempts to give context but which may leave the user confused in two ways: what ethical behaviour to expect, and what ethical behaviour is to be expected.

Metaphors and analogies are tremendously influential in setting a context, and if we want to promote an ethical environment care should be taken in choosing appropriate analogies and metaphors, which incorporate an ethical frame of reference.

### **8.1.3 Problem solving with regulation**

A more explicit method of influencing ethical thought and behaviour is that of regulation, either by law or self regulation (or, to use a more contemporary term - co-regulation). Chapter 6 presented the case that the Internet is generally viewed as unregulated, and has inherited a tradition of non-regulation, which together influence the regulatory scene. Finding a balance between maintaining the somewhat entrepreneurial nature of the Internet and providing a foundation for trust, essential for the development of e-commerce, is proving a tremendous challenge.

However, the legislation which has been introduced over the last few years is useful from the point of view of this research as an aid to clarifying the “new issue, old issue” debate.

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The formal nature of regulation is useful to understanding issues because of the precision and rigorous thinking it requires. Looking at the issues from a regulatory perspective shows the role of regulation in providing an ethical infrastructure. This chapter gave examples of the legislative attempts to re-instate a type of ethical infrastructure in the on-line environment.

The difficulties experienced with *agreeing* regulatory measures (apart from the difficulties of applying and enforcing them) in an international context are not easily resolved. Discussion plays a vital role in these negotiations, not only by the exchange of ideas and creating understanding, but also in itself as a moral ideal. The series of workshops held by IFIP SIG9.2.2, an experiment in providing “spaces for discussion”, raised the profile of ethics throughout the HCC5 Geneva conference, and valuable insights were gained (Berleur, Duquenoy and Whitehouse 1999, see Appendix A:1).

#### **8.1.4 Applying ethics**

Attempts to resolve the ethical problems by applying traditional ethical theories have proved difficult, and claims that the issues in this field are unique, have prompted some authors to claim a new ethics is needed. The argument given in Chapter 7 was that the difficulties experienced in applying traditional ethical theory does not necessarily imply that the issues of computer ethics are unique - applying ethical theory to non-computer issues can also give problems and contradictions between theories. In other words, applying ethics is a difficult business. It was also argued that focussing on the weaknesses of traditional ethical theory jeopardises the status of ethical theory, and ignores its role in offering principles and its importance as an analytic aid to moral thinking. By putting the difficulties of applying ethical theory in a wider context (i.e. other fields of applied ethics), this author has tried to regain a sense of perspective and give a more realistic picture of the role of ethical theory in this context.

However, in view of the difficulties experienced with the theories mentioned, this chapter proposed alternative approaches, (i) to extend the range of ethical theory used, in a more subject specific way, and (ii) a discursive approach to address the added complexity of an ethics for the Internet.

## **8.2 Constraints and limitations of the research**

### **8.2.1 Scope of the research**

At the beginning of the research period the subject of Internet ethics was very much in its infancy. This situation provided tremendous scope for research, but also presented problems in the lack of a concrete base from which to start (a problem which this research

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has sought to address). The potential scope of research has also had its disadvantages in that it has at times proved difficult not to get sidetracked from the original aims of the work by the many interesting issues and exciting developments within the area.

It has been apparent throughout the period of research that the work covered in each area is merely touching the tip of the iceberg, and one of the greatest problems during this research has been to maintain the research focus. Each area of investigation sparked ideas which could have led in many different directions - choosing which path to follow has at times been extremely difficult. The choices made were determined by the main aim of the research (i.e. to unwrap the complexity of Internet ethics), rather than getting immersed in specific issues, such as Intellectual Property. That being said, whilst the scope of the research naturally has boundaries, it is hoped that the ideas presented in the thesis, and the approach adopted (i.e. offering different perspectives) stimulates further ideas and alternative approaches in others - which in turn further the understanding of the topic.

### **8.2.2 Time**

The time constraint does not only apply in respect of “man-hours”, there is also the changing context of the area studied to be taken into account. The Internet environment has changed dramatically from its inception to the present day, and is still changing. New technologies are continually being developed and introduced, and the assimilation of the Internet into everyday life has vastly increased. In these circumstances producing relevant research has a very real time constraint - this is especially so in the field of computing science. This thesis has therefore endeavoured to provide a broader, high-level, picture which emphasises the interrelationships of people, ethics and technology; that is, an abstract principle which remains relevant and maintains its value over time. Even so, the writer has been acutely aware of the changing face of some of the areas. For instance, the example of the email analogy given in Chapter 5 may not seem so relevant at this time as it was at the beginning of the research period! New users today may be aware of the non-private nature of email (particularly in the office environment), that is, the conceptual ground may have already been broken. However, the principles which that chapter puts forward remain the same: that analogies and other similar descriptive devices contribute to providing a certain concept, and by their very nature analogies carry forward some properties and ignore others - therefore if we wish to maintain an ethical perspective we need to choose analogies which include ethically relevant properties.

### **8.2.3 Cross-disciplinary research**

The complexity of the Internet ethics situation, incorporating as it does at least three complex components in their own right: technology, people and ethical values; covers a range of disciplines, most obviously, computer science, the social sciences, and philosophy.

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Having said that, it is Internet technology which is the foundation of the problem area, and it is therefore appropriate that this research has been conducted from within a computing science department, and is directed primarily at the IT community. One of the aims of this work has been to emphasise the tight relationship between technology and ethics, and by doing this to raise the awareness of IT professionals to the sorts of ethical issues which can arise. Conducting the research from a computer science department has, this author believes, facilitated the communication of these ideas, not only because of access to departmental seminars and computer-related conferences (such as Interact, Ethicomp and IFIP-HCC5), but also through a culturally familiar – in the sense of disciplinary cultures - writing style (in contrast to, for example, a very different style and terminology employed by philosophy and the social sciences).

The four perspectives used in this research fall within the disciplines of: computer science, cognitive science, psychology, law, and moral philosophy. Such a disciplinary cross-section places severe constraints on the depth to which each area can be studied within the timescale of a Ph.D. Indeed, each of the four areas selected for this investigation could in themselves provide a base for separate research (Ph.D. or otherwise). However, the aim of this research was to (i) clarify a very muddled area, and (ii) provide a foundation for further work. One way of seeking clarity within complexity is to distinguish separate dimensions from which to look at the problem, which is what this research has done. There have been losses in taking this approach, in terms of covering the vast amount of work available in other disciplines (for example, the range of literature on metaphors in the field of cognitive science). That said, individual research on each of the four perspectives would not give the combined picture that is at the heart of this thesis. The recognition of the impact of each of these perspectives on the ethical environment, or ethical “lifeworld” (to borrow the term from Jürgen Habermas), and how they fit together is, this author believes, a major contribution of this work. Taking into account the additional benefits, such as introducing and presenting new ideas and new perspectives to IT professionals, the author considers the gains to outweigh the losses. It is also hoped that others will take these ideas as a starting point for further research.

Whilst the four perspectives taken in this research were chosen as a result of meetings with experts and the literature survey, working within these perspectives has been illuminating, and has generated a framework which may be useful in future work. It would be interesting to see, for example, to what extent computer-ethical issues can be accommodated by this framework, and what this might say about those issues that cannot be categorised.

This research does not claim to solve the problems of Internet ethics, indeed at the beginning of the research period it was hard to know even what Internet ethics



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incorporated. What this research has tried to do is to see how the problems that are being debated come about, and where their ethical “roots” lie. It has challenged some of the statements made by authors in the computer ethics field regarding the uniqueness claims, and has offered a different perspective on those claims (for example, Chapters 5 and 7). The objective of this research has been to provide a conceptual foundation of Internet ethics; a platform from which other work can take place. The Internet is developmentally still at an early stage, and the ethical implications are similarly only beginning to appear: computer implants, virtual reality, and intelligent agents are likely to raise even more challenging ethical questions in the future.

### 8.3 Further work

This research, conducted as it was at the beginning of a highly transformative stage of technological development, has only touched the tip of the iceberg. Consequently there are a number of opportunities for further work, both in a broad sense and also a narrower, more specific way.

Taking the broader view first, it has been noted that the focus of the work is from a western cultural viewpoint (Chapter 1, p. 9). Cultural backgrounds have a strong influence where discussions of ethics are concerned (for instance where religion plays a dominant role) and in this respect viewpoints from other cultures would enrich the ethical debate. The work described here offers an opportunity for others from different cultural backgrounds to compare and contrast their own, or others, ethical perspectives. Culture in this latter sense usually refers to national or ethnic identity, but culture can also denote other types of communities - business or educational, for example. In this sense this research takes its position from a computing science background, and considers the ethical implications of the Internet from that position, in particular focussing on practitioners and users. Future research which investigates the implications for philosophy and philosophers, for example, could provide other valuable insights.

In a narrower, more specific, sense, each of the four areas investigated here offer opportunities for further work.

From the technology point of view, there is room for further work in the application of ethical theory to the variety of subdisciplines coming under the computer science umbrella. Also, empirical studies of the perceptions of technologists to the ethical dimension of their work, and how ethics can more easily be introduced, would be extremely useful. It may be that the framework employed in this research can be applied to other areas, and employed as an educational aid for getting the “ethical message” across. This may be a way of addressing the question above, of how ethics can more easily be introduced to

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technologists. This a difficult but important task within the IT field, and is likely to be even more relevant in the future. A framework such as this, explaining common ideas within familiar categories may provide a good answer.

Further, more detailed, work on the subject of concepts, metaphors etc. may help to guide a more knowing approach in the future – this is tremendously relevant in this area given the current pace of technological development, and the unknown quantity of future technology.

From the regulatory perspective, it should be possible to develop a stronger framework, or matrix, not only for the analysis of ethical issues (or new or old issues) but other properties of the types of problems we are seeing.

Finally, work in the area of ethics is in itself ongoing, and seemingly never-ending. It would be useful to have some empirical evidence of Habermas theory of Discourse Ethics in practice, showing the extent to which it can work, and the conditions required.

## 8.4 Conclusions

The research elaborated in this thesis was performed with the aim of finding some means of clarifying the complexity of Internet ethics. A framework consisting of four perspectives has been developed as an aid to understanding the ethical issues. Taking these perspectives has allowed an exploration into aspects of the Internet which contribute to the problems of Internet ethics - demonstrated in chapters 4-7, and summarised above (sections 8.1.1-8.1.4). Using the framework has enabled us to answer the main question posed at the beginning of this research: "Why is the Internet provoking such an ethical debate?" (Chapter 1, p.1). Each of the four perspectives has given some insight into contributory factors:

- The technology itself raises issues concerning the responsibility of designers; and the technical solutions developed in response to concerns of access to harmful material, for example, have raised other ethical concerns.
- Metaphors and analogies used to describe the Internet, whilst capturing certain aspects, can be misleading in terms of attitudes to behaviour (for example, Cyberspace).
- Regulation, used as a tool to set standards and resolve ethical concerns, meets with difficulties in a global context, and also raises other issues.
- Ethical theory is criticized as not being adequate, prompting conclusions that the problems we are facing are unique.

Taking these four perspectives, and using them to investigate different contexts, has also provided a base for addressing the questions listed at the end of Chapter 1 (p.18), which were:

- Is it that the issues are new and do not easily fit with traditional ethical theory?
- Do we need a new ethics?
- Is it that we find some issues are a conceptual muddle?
- Are the problems simply to do with regulation?
- Should we even be thinking about ethics and technology? Surely its not the technology that is the problem, its the people who use it.

The answers this research provides are, in the case of the first two points, that the issues are not new, and that the bad fit with traditional ethical theory is not necessarily symptomatic of unique issues (Chapters 6 and 7). Having said that, there are particular difficulties with Internet ethics (such as global diversity) which may benefit from a new approach - such as discourse ethics.

In answer to the third point - are the issues a result of conceptual muddle? - I have argued that concepts play an important role in setting an appropriate context for ethical behaviour and expectations (Chapter 5). James Moor (1985) initially raised the idea of conceptual muddles with reference to software, this thesis has broadened the scope of the idea of concepts to include Cyberspace, emails, and information superhighway. In this broader sense there are issues which result from conceptual muddles such as attitudes to behavioural control, and expectations of privacy. The term "information superhighway" is a nice catch-phrase, but tells us very little about how to behave or what hazards one may encounter whilst "driving, and so is of little use in terms of giving an ethical context.

There are problems with regulation (item 4 on the above list) which have been discussed in Chapter 6, but as the rest of this thesis suggests, this is not the only source of the ethical difficulties.

Finally, the question of whether ethics and technology is a matter for discussion at all. This question has been addressed comprehensively in Chapter 4, and the conclusions drawn are that there is a tight relationship between the two; the recognition of which is of paramount importance. The constraints on users which are designed-in to computing technology (intentionally or unintentionally), and the vast impact of Internet technology in all spheres of life, brings ethics firmly within the domain of designers and computing professionals and places a moral responsibility at their door.

The work in this thesis demonstrates that looking at the problems in different ways stimulates thought and produces insights that can be helpful in understanding some of the ethical problems of the Internet. From the computing science perspective (which provided

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the environment of the research) it can clearly be seen that not everything can be solved by technology, but the choices made can influence the ethical debate. Using this framework as a tool - or conceptual probe - to assess where ethical difficulties lie, and with experience to pre-empt some of the problems, can be a valuable asset as the Internet develops.

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